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ABSTRACT

This sourcebook has been compiled for educators in museums and schools who are interested in learning of ways in which their colleagues from cultural and educational institutions have worked together. Over 50 programs are described. Emphasis is on the collaborative effort rather than the resulting program. The following questions are answered: Why was the program developed? Did the school or museum initiate the contact? How was the contact made and how is the relationship maintained? With the benefit of hindsight, what changes would the participants make? The program descriptions are organized into seven sections: how to build museum-school bridges, early planning, working with traditional school audiences, considering post-secondary school audiences, reaching teachers, sources of financial support, and some additional information sources. Some examples of program descriptions included follow. A professor of history at a Pennsylvania community college learned about museums as learning resources. He then approached the nearby art museum for assistance in development of his own and his students' skills in the use of artifacts. A second example is that of a group of California museums that collaborated to provide interdisciplinary programs to area schools. Then there are instances in Ohio, Kentucky, and Kansas in which public schools initiated their own museums. (RM)

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museum school partnerships:

plans & programs

sourcebook #4

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Introduction

This sourcebook, *Museum-School Partnerships: Plans & Programs*, has been compiled for educators in museums and schools who are interested in learning of ways in which their colleagues from cultural and educational institutions have worked together. These collaborations can be approached in a number of imaginative and mutually beneficial ways. For instance, *Museum-School Partnerships* reports on the professor of history at the Pennsylvanian community college who learned about museums as learning resources from his wife and who then approached the nearby art museum for assistance in development of his own and his students' skills in the use of artifacts. There is the group of Californian museums that collaborated to provide interdisciplinary programs to area schools. And there are the instances in Ohio, Kentucky and Kansas in which public schools have initiated their own museums. In each of the over fifty program descriptions presented here, our emphasis is on the collaborative effort rather than the resulting program.

Why was the program developed? Did the school or museum initiate the contact? How was the contact made and how is the relationship maintained? With the benefit of hindsight, what changes would the participants make? Unless otherwise indicated, these program descriptions are prepared from telephone and written responses to those very questions. A sample of the form used, "Consider This . . .", appears at the end of this book. "Consider This . . ." was developed by the staff of the Center for Museum Education for use in gathering uniform program data and as a recommended guide for school and museum personnel who choose to reflect on their shared programs.

For this sourcebook, requests for information about museum-school collaborations appeared in *Roundtable Reports* and at regional and annual meetings of the American Association of Museums. Further, individuals who

contributed materials to the Center for Museum Education were contacted as were others on word-of-mouth recommendations. In each case, data about the programs were entered in the format of "Consider This. . . ."

Kim Igoe and I then laid out the sourcebook based on early returns. We considered where else to look for possible entries. She then followed up and gathered additional data. We decided on the final list and I wrote the program descriptions. In addition, school and museum educators were invited to prepare essays.

Museum-School Partnerships: Plans & Programs is the last in a series of four sourcebooks compiled and published by the Center for Museum Education. Each is intended to be a professional resource and idea book for people who consider museums to be educational resources. Each reports on the efforts of our colleagues in museums and related institutions through a sharing of their materials, their ideas and their programs.

In August 1976, the Rockefeller Brothers Fund awarded a grant to George Washington University, Washington, D.C., to establish a Center for Museum Education. Its purpose was to collect and disseminate information and materials of interest and assistance to museum educators and other people concerned with the education potential of museums. With additional financial assistance from the National Endowment for the Humanities, the Center served that purpose for three years. In addition to the sourcebooks, the Center published *Information About Information*, an annotated bibliography of the collected materials and provided consultant services to countless individuals.

In July 1979, with funds no longer forthcoming, the Center's Advisory Council, chaired by Evan H. Turner, announced the closing of the Center for Museum Education. The Center's prime tangible asset, the reference library of materials related or useful to museum education was transferred to the Museum Reference Center in the Office of Museum Programs at the Smithsonian Institution. Our colleagues are encouraged to continue to share their materials via the Museum Reference Center. The spirit of the Center for Museum Education, that a sharing of materials and ideas, successes and failures among interested individuals is a good, professional and useful effort, was accepted by the AAM Standing Committee on Education. During its annual meeting in 1979, that group passed the following motion:

"In recognition of the work of the Center for Museum Education in providing services to the museum profession, that the AAM Education Committee foster the creation of a task force to study the adaptation of the Center's programs as a model for AAM-sponsored multi-disciplinary services to the profession."

As work was already underway on this fourth sourcebook about museum-school programs, it was decided that the project should be completed as the final tangible product of the Center for Museum Education. Now that task is accomplished.

S.N.L.

"We had this teacher, Miss Aigletinger, that took us there damn near every Saturday. Sometimes we looked at the animals and sometimes we looked at the stuff the Indians had made in ancient times. Pottery and straw baskets and all stuff like that. I get very happy when I think about it. . . I loved that damn museum."

—J.D. Salinger, *The Catcher in the Rye*

Building Museum-School Bridges

What are the issues to consider when thinking about your institution's role in a present or future museum-school collaboration? Here are some encouragements and caveats from five museum and school professionals.

"Museums and Learning," Alberta P. Sebolt, Director of Museum Education, Old Sturbridge Village, Sturbridge, Massachusetts

The museum, in addition to its scholarly and curatorial functions, is also a learning environment. This notion of an educational function is not a new idea. Even those museums among the earliest founded in the 1870s noted their educational value in their charters. The Tax Reform Act of 1969 further served to strengthen this education objective in providing special gift benefits to museums defining their major purpose as educational.

Clearly, it appears that there is little argument with this purpose but rather the different viewpoints emerge within the meaning of educational. There is a tired quality to the discussions of the past decades concerning the meaning and implications of this educational role. To restate or continue to present the terms of the old dialogue no longer serves us well. I propose that museums *are* educational institutions that can provide learning experiences and such learning can be fun without making us amusement parks. To carry out this function, museums need schools. They need teachers and student learners who will collaborate with the museum in the process of education. Museum staff must also recognize the study of the process of education as worthwhile scholarship if they are to carry out this educational purpose.

Education is the science of dealing with the principles of teaching and learning. Hence, it follows that an educational institution is one that consciously applies those principles. Museum staff must be students of this science in their work with schools. They must define their objectives with a concern for the nature of teaching and learning within the museum. Within such a definition of objectives it becomes apparent that the primary concern

of a museum is not really with the collection or the objects themselves. The primary concern is the *meaning* of each object, the *relationship* between objects, and the experiences that combination creates for human beings.

Ultimately, the effectiveness of the museum will be determined by the *experiences* it can provoke within people. Those experiences include not only the knowledge that student visitors may accumulate but also the *feelings* they have about what they are learning. As museums focus on schools they need to concern themselves with students. For this audience of learners we must design experiences with a knowledge of the patterns of their learning. Beginning with some basics, we do know that children learn by observing others, by imitating models, by watching or seeing a demonstration, by discussing issues, by listening to a lecture and by acting and experiencing something. Learners often construct meaning and create their own reality rather than responding to the sensory qualities of the created museum environment. We also know that learners differ in the process by which they learn, and in the way they process information. Some may focus on one aspect at a time while others may survey the problem more broadly. Learners' styles differ in the ways they receive and respond to the information. This suggests to us that the museum exhibit can not serve all learners equally well. Instructional styles that focus on that exhibit need to vary and be directed toward helping the *learner* to interact with the environment.

If students are unlikely to develop relevant relationships between the information you are presenting and their own experiences, then the teaching and learning needs to be directed at this problem area. All of this means that activities need to be selected to assist the learner to bridge the distance between where they are and where you want them to be. Learners need active roles; they can not be passive consumers of information if we intend for the learning to be useful and meaningful. Even when children are given the information they are to learn, they must discover its meaning. This discovery involves using the information to answer a question *they* ask, applying the information to solve a problem or organizing that information within some memory system familiar to them. They need some "hangers" for their "closet of thoughts" if they are to find the information useful, otherwise the problem of storage becomes one of "forgetting."

Active learning means more than walking around the museum. Children need a chance to engage more than their senses of seeing and hearing. This does not mean they need to touch the precious object. However, they do need chances to smell, to touch, to taste, to question, to inquire and to solve a problem. Children need to *experience* the museum.

In my opinion, the most effective experiences for student learners are the result of museum-school collaboration. These same thoughts about learning can be applied to the building of those collaborative programs. The elements that produce a good program are the same as those which produce effective interdepartmental programs, that is, people working with people to accomplish a set of clearly defined *objectives*. The planners are involved in the process of designing the experience. At the early stages of this building process you need to be attentive to the development of your working and planning relationship as the collaboration will be defined by the nature of this relationship. Some useful guidelines for this development are:

1. **Begin where you are.**
   - recognize your resources, your position, your strengths and weaknesses
   - recognize where others are in this process
2. **Begin slowly and realistically. Be careful not to build barriers.**
   - recognize your limitations
   - be candid and realistic
3. **Involve and include others who need to be "in on" the planing. Build and strengthen team planning.**
   - identify roles and responsibilites
   - know who is going to do what . . . when . . . and how
4. **Establish clear time and program guidelines.**
   - you can not plan forever
   - go ahead and try a program
5. **Build from your strengths and successes.**
   - put together the strongest elements first
   - take advantage of the moment

The organization of the planning process is also an important consideration. Successful educational programs come from a solid knowledge of learning patterns and well-defined plans. You will need a system to make this collaboration work for both the museum and the school. Several critical steps to consider are:

1. **Identificaton of Needs and Options**

   What are the needs?
   Define the problem or the program which you want to address.

   What are the parts?
   Analyze the elements of that program.

   What are the options?
   Develop a course of action. Analyze the resources available. Estimate the amount of time for planning.

2. **Development of Program**

   What is your reason for doing the program?
   List the important reasons for this program. Design a rationale for the program. Address museum and school objectives.

   What are the major ideas you wish to develop?
   Identify a focus for your study. It is helpful if you narrow the topic to the specific problem which you will be addressing.

   What do you expect students to learn?
   Identify the major ideas which you hope students will develop. As a result of this study students will . . .

   How will you assist the learner?
   List the activities and teaching strategies that you will use, e.g., role playing, reading a room, reading a painting . . .

3. **Implementation of the Program**

   What are the roles of the museum and the school staff?
   Be specific about classroom and museum learning experiences.

What are the materials needed to accomplish the plan?
List the available resources and make plans for those which are not readily available.

4. **Revision of the Plan**
   How will you know if the program is effective?
   Develop a system of observation, analysis and evaluation.
   Use the information to revise the plan.

   How would you change the program for a new group?
   Go back to the needs of the learner. What do you need to change?

5. **Planning for the Future**
   How will you continue the program?
   You need to plan to nurture the relationship or it may not continue. You also need a plan to let people know about the program. Building support is important if you wish to sustain involvement. At this point you may also want to consider a training program which will help others to develop similar programs.

Museum educators need to take seriously this planning process if they are to fulfill their educational objectives. They need to explore alternative ways of engaging their primary audience by working with classroom teachers in applying the methods of inquiry to the museum. Museums are environments where learning can be fun. The knowledge and plans are available to make that vision a reality. All we now require is the will and wit to make it happen.

"Relations Between Consenting Institutions," Patterson Williams, Director of Education, Denver Art Museum, Denver, Colorado

The question to be addressed here—"Should a museum have a set program that is offered to those schools which choose to use it or should museums cultivate the school audience and tailor specific programs to individual school interests?"—is a "how to" question about institutional relationships. It is a question which can only be answered well after deciding *what* it is one wants to do and for *whom*. In fact these two decisions will be the determining factors in answering the question.

No two museums will decide to answer the questions "What?" "For whom?" and "How?" in the same way. The differences will depend, among other things, on what kind of collection the museum has, whether there is a collection or not, and what kind of resources the museum is willing and able to commit to school programs. One could say that the answer to the question above "depends on what you want to do." Having said that it would appear that one could say no more without input from the reader. However, in order to explore the method one might use to answer our question, let us set up a hypothetical museum with a collecton of objects (or animals) which are somewhat different and worth seeing, and with a firm commitment on the part of trustees and administration to see strong programs for school children. The hypothetical objective of our generic museum's school programs is as follows: Young people who visit the museum from schools will

have significant experiences with objects in the museum's collections.

If a museum simply sets out to make such a statement a reality—planning, doing, and testing to see if the objective was accomplished—this seventeen-word sentence would become the basis for a complex and probably costly phalanx of school programs. The choices that have been made here in terms of program content are for significance over triviality and for experience with objects over experience with history, biology, the creative process or a dozen other worthwhile concerns related to museum objects.

One could argue that these are the most appropriate foci of museum programs for schools and that our hypothetical program objective is also an ideal objective for most museums. A museum is a repository of objects. A museum's existence is based on a belief in the significance of these objects, on their being worth preserving and displaying to the public. How to learn from objects should be the "core curriculum" for any museum visit. Once such a decision is made the burden of program development is placed squarely on the shoulders of the museum, not the school. The placement of this responsibility is based on institutional self-interests and on how to get the highest quality programs. Not only can such programs best be developed by people whose first loyalty is to the museum object (not, harsh as this seems, to the development of the child), but it is far more advantageous to the museum's self-interests than to those of the school for an audience of young people to be taught how to get the most out of a museum visit. Schools must establish curriculum priorities within increasingly restricted resources. In the next decade it is unlikely that schools will be able to choose to add museum education to basic skills, social studies, and physical education. The only and the best way generations of students will be taught the skills needed to have significant experiences with museum objects is if museums develop programs which teach these skills.

The nature of the program content chosen here determines the need for museums to set up their programs "from within," using their own institutional need for competent museum visitors in the future as the criterion for tour and program development. The choice of audience however demands that the needs of schools also be considered. Aside from the practical need to obtain the permission and the commitment of school officials to send *their* children to the museum, it is also necessary to comply with the context in which students will be visiting a museum. No matter how much of a vacation from school work the field trip experience may seem, the child comes to the museum in the context of his "schooling" pursuits, not in the context of the intimate social experience which characterizes weekend family visits. He comes, for instance, as a part of a group of twenty or thirty; as a person among peers, with a certain ranking and role; as a person in the charge of his teacher. He comes, not as the result of personal choice, but as the result of institutional choices made by the teacher, the principal, the school superintendent, and ultimately the school board. It is undoubtedly true that museum programs which are related to the school's top curriculum priorities will have more appeal to the school. In times and places where basic skills are top priorities, programs like those in the Saint Louis Art Museum's *Handbook of Museum-Based Lesson Plans* are an excellent approach, one which is being purchased by the school systems which use it.

The fact that schools will purchase museum programs should give one

pause, and encourage reassessment of the "begging bowl" approach to building museum-school relations. The scenario often played out by museums seeking school support is one in which once-a-year representatives from the local cultural institutions—the symphony, local historic houses, the zoo—appear before the Board of Education, which is facing serious budget cuts, and beg for cooperation, a little money and field trip commitments. At such a meeting recently, in Denver, one museum director, from the Children's Museum, made quite a different approach. He thanked the Board for their modest contribution to his museum and said he hoped that next year he wouldn't need to ask for it again, that by then he planned to have programs the schools wanted enough to purchase them. His approach may seem to be the way out of the eternal search for funds but only if the museum can and will produce programs which answer the curriculum needs of the schools. A children's museum, with little or no collection but with sensational activities for children, has a flexibility that other museums do not. The Denver Children's Museum, for example, has organized a series of brilliant traveling exhibits or activity centers on themes such as how it feels to be handicapped, and consumer education. The museum staff has carefully planned the themes to meet school needs, and to be marketable. The exhibits sell like hot cakes, covering operation costs and making profit for the museum. The Saint Louis Art Museum's program, mentioned earlier, barely covers costs and requires careful promotion before a school purchases it. On the other hand, Saint Louis' program is one that is built on loyalty to their collections combined with considerations for the school's needs. That program, for example, consists of lesson plans taught in the museum, in which classes examine art objects and do exercises that involve building vocabulary, or comparing Colonial social structure with that of Europe.

Effective marketing, in that it requires bending to the demands of the market place, can be an extremely effective tool for building cooperative relationships with schools. This must be balanced (in the case of our hypothetical objective) with the self-interests of the museum. Museums have two good reasons to do programs for schools. One is to help educate young people in ways that are good for young people, but the other reason is to ensure, in some measure, a future audience for the museum. Programs like those done by the Children's Museum fall into the first category above; Saint Louis' fall into the second.

Another cause for caution in designing programs *for* schools, rather than *for* museums is that most school people have vague and usually low-level expectations of museum visits. The majority of teachers, if asked, would say that they bring their students for "exposure." Theoretically, exposure could be accomplished by coming to a museum with no program in mind other than to walk through the galleries and to be exposed to their contents, what most guided tours accomplish with a little extra verbiage. Bruno Bettleheim, in his address to the Smithsonian Institution's conference, "Children in Museums," Fall 1979, urged that we have "no educational programs" in museums and that children come as he came—often, with his family, left to wander and wonder on his own. This is a course to be seriously recommended for the family visitor but not for the school group. For this audience there is something worthwhile which can be accom-

plished in the context of a directed learning experience. That something might be the ability to focus carefully on single objects, to see all that there is to see; to react personally and honestly to those objects, to consider the object in its historical and cultural context; or to evaluate the personal significance of that object for one's self. These are not things that happen with any consistency or depth when groups of students have no educational program on their visit. They are, however, things that can be encouraged to happen through object-oriented learning programs. Once again, however, will schools make this happen? No. In fact, museums must often press hard to sell schools on the idea that anything more than exposure can actually happen on a museum visit.

Thus far we can see a model for eternal conflict, conflict between the needs of the school and the museum, even between the desires of the child and those of the museum and the school. The development of school programs is still a problem-solving activity. Webster says a problem is "an intricate, unsettled question." I doubt if the problem will ever be solved. It is more likely that there will need to be an endless exploration of ways to balance conflicting interests. In order to do that well I have two general recommendations. The first is to be committed to doing what is in the best interests of the museum such as finding out how people can learn from objects and to developing programs based on such objectives. The second is to play what could be called "the game of institutional possibilities."

In order to play the institutional possibilities game and win, one must be extraordinarily open to all kinds of possibilities. Such openness requires not only an open mind, the absence of foregone conclusions, but also a concerted effort to find new possibilities aside from those which may happen to fall in our laps. Never, for example, pass up an opportunity to welcome program suggestions from teachers. Encourage all staff and volunteers, especially appointment secretaries and receptionists, to consider odd requests seriously. Stretch programs so they answer the needs of individual classes. Hire staff and train volunteers for flexibility.

The two recommendations above are contradictory, but not mutually exclusive. One can develop school programs that are loyal to museum objects and that fulfill school-based needs. Such programs might be planned by museums and offered to schools or they might be planned for schools, primarily answering school needs. Two of the excellent school programs at the Philadelphia Museum of Art are good examples of this. *One World*, a program developed by museum teachers Marla Shoemaker and Julie Valenti at the request of the World Affairs Council and the Philadelphia public school system, helps junior high students to explore the samenesses and differences that exist between foreign cultures and their own. Another Philadelphia program, *Museum Journey*, is a multiple visit series that teaches museum visitor skills—visual perception, value clarification, and others. This program was developed completely within the museum. Both programs, however, proved to be popular with schools and both were based on object-oriented learning.

The Saint Louis and Philadelphia programs share the most important ingredient for the development of museum-school programs—the museum based teacher who is sensitive to and informed about school curriculum, child development and the museum's collections. Given that resource a

museum can, and should, approach the problem of program development in a variety of ways and yet always be assured of quality from both the school and the museum perspective.

"What Will We Responsibly Attempt?", Marcella Brenner, Professor of Education, George Washington University, Washington, D.C.

It is all but axiomatic that appropriateness of situation, of content, of activity, of expectation is critical to the learner (even the appropriateness of some anxiety or stress both of which can be useful to the learner). One can for example find ready agreement that the playground is an appropriate place for young children, but, beyond that gross statement, the trouble begins. Is the frightened five year old to be encouraged, persuaded, obliged to go down the slide? His three-year-old cousin is crowing with pleasure as he races up the ladder for yet another joyful excursion down the steep slope. All of which leads one to ask who decides what is appropriate and for whom? And what does the museum do when the school or the community asks the museum to schedule an activity which the museum considers inappropriate? How does the museum arrive at its position?

For example, the Museum of Art has a mixed collection of painting and sculpture. A kindergarten teacher asks for a tour of the wing of abstract art. Does the Education Department develop a policy which suggests that tours will be offered to all age groups? Will tours be offered only to nine year olds and older? Will some other policy be made?

And what criteria will the museum educators employ in development of that policy? The museum's need to show that it has large numbers of visitors daily? The possible match between the difficulty of the material shown and the cognitive or interest level of the visitor?

Or the Science Museum has an exhibit on homes in which the emphasis is on the need to improve construction techniques in order to conserve energy. The Education Department would like to attract school groups. Whom do they invite? For whom is this exhibit appropriate? What criteria will the museum employ? Will sixth graders be able to understand the technical material, the cost figures, the social implications? Even though the Department is fairly certain that ninth graders will be able to understand the concepts and their application to real life, there is little that a fourteen year old can do about the housing industry. Is there a point in asking him to attend to a problem which for him is of necessity abstract?

Finally, the Natural History Museum has an excellent exhibit on devices used to establish the age of artifacts. Again, the teacher of young children calls for an appointment to bring the six year olds. What does the museum do? Are they persuaded by Piaget that young children do not comprehend historical time; that colonial days and the days of the brontosaurus are one for a seven year old? If so, what policy does the museum adopt? How does it handle its decisions so that it is understood, so that the museum is not charged with elitism?

What do we in the museums expect of a tour? How do we decide what we will responsibly attempt?

"Academic and Museum Historians: Common Causes and Challenges," **Thomas J. Schlereth, Associate Professor, Department of American Studies, University of Notre Dame, Notre Dame, Indiana**

"Amazed I pass
From glass to glass
Deloighted I survey'em
Fresh wondthers grows
In this sublime Musayum!"

W.M. Thackeray, "Mr. Molony's Account of the Crystal Palace" (1851)

I have always considered museums, like schools, to be primarily educational enterprises. In both institutional contexts, teaching and learning occur through structure and serendipity. I have not, however, always been conscious of the enormous educational benefits that can result when teachers in schools collaborate with teachers in museums in the common cause of mutual learning.

My previous myopia about museums, particularly history museums, happened largely because my otherwise excellent doctoral training in history during the 1960s prepared me to teach and research the past with only a single type of historical evidence—the written word, the verbal document. In my Ph.D. apprenticeship as a historian no mention was made of physical objects (the *raison d'etre* of any museum) and their possible use in explicating the past.

Since my graduate school mentors took no interest in objects or what we now call material culture, they had no need for museums; conversely, as they remained indifferent to museums, they never came to assess or to employ three-dimensional evidence in their pedagogy or their professional research. Early in my teaching career, I followed their example. In teaching history on the university level, I saw no need for history museums or their resources—their extremely varied collections of material culture evidence—in historical study and, consequently, neither did my students.

I reiterate this personal history of one historian's previous unawareness of the potential of history museums because I think it may be highly representative of many other university teachers (whom I refer to here as academic historians) who, in the past decade, have begun to work with (or have expressed an interest in working with) their counterparts (whom here I call museum historians) in the museum world. Any talk of museum-school partnerships must recognize this important fact: few academic historians have been deliberately trained, even in an introductory fashion, to use museums, museum materials, or museum professionals in studying the past.

As a beginning effort to rectify this deficiency in the training of historians within the field of American studies, I have now instituted in my graduate seminar in research methodology a two-week component especially devoted to introducing students to history museums (including the history of art, technology, decorative arts, etc.) as important research and teaching resources. Along with acquiring advanced research skills in using special li-

braries, archives, municipal record collections and other documentary data, I want every graduate student under my tutelage to be equally adroit in interpreting the cultural evidence he or she finds in art galleries, photographic and cartographic collections and, of course, the artifacts in local historical societies and museums.

Unfortunately, museum historians have not, at least until quite recently, seen any pressing need to involve undergraduate or graduate students in the museum's research activities or educational programs. Museum historians—curators, exhibit designers, education department faculty, conservators—have often ignored academic history's quest for methodological rigor in research and scholarly standards in publication. In the important work of popular or public history, they have frequently been isolated from professional history. Museum education departments, when they have existed at all, have tended to focus their energies primarily on educational programs strictly for elementary and secondary schools rather than for colleges and universities. Of all the history museum's current constituencies (e.g. elementary schools, special audiences, secondary schools, adult learners), I fear that the collegiate and graduate student have been least well served by museum education programs.

How might this undesirable state of affairs be changed to promote more exciting and engaging history teaching in both schools and museums? I am persuaded that achieving such a change will depend upon academic and museum historians recognition of two premises that I see as absolutely essential to any inter-institutional co-operation between them: first, both must commit themselves and their students to a sustained inquiry that will discuss, debate and delineate the assets and the liabilities of material culture as historical evidence; second, both should acknowledge and use those special features (e.g. libraries, laboratory facilities, professional expertise) that each of their institutions possess but especially recognize the unique components of the historical museum as a life-long, self-teaching, learning resource center.

Permit me to outline three such uses of the historical museum as a resource center for the academic historian working with graduate or undergraduate history or American studies majors. Here I see the history museum as: 1) a repository with special collections of *historical data* worth examining; 2) a learning laboratory wherein the premises and procedures of *historical explanation* can be explored; and 3) an institutional context (unlike the typical collegiate classroom) to which many students will return throughout their lives with, I hope, a heightened *historical sensitivity* that will make them informed and inquisitive museum visitors.

An obvious benefit that the historical museum offers academic historians is direct contact with the visual, tactile remains of another age—the tools, utensils, furniture, clothing and other material culture in which are etched past human behavior. Museums are our libraries of things and it is in museums that the expanding, current methodological debate over the meaning of "things" in history could well be centered. Assuredly that's where the things are; nowhere but in museums is past material culture as concentrated, so much so that most exhibited museum collections are but the proverbial iceberg with only an eighth of their total holdings displayed.

Museum and academic historians need to collaborate in figuring out

ways to explore the numerous features of mammoth museum collections both for their own research and especially for their students' continued use. For example, how shall we discover, categorize, browse in, sort, compare, cross-reference, examine systematically, illustrate, or footnote museum collections? Why do we teach our students how to use the library or archive so that they can forever return to explore its riches for fun and profit, but provide them with miniscule similar training, only a few finding aids, and little sense that a history museum can also be a reference and research facility?

I would also suggest museum and academic historians consider their cache of museum artifacts as vital study collections (as is done in many art and science museums) for what various scholars are now calling material culture studies. I am convinced that one major objective of this emerging interdisciplinary, inter-institutional approach must be to generate both adequate theory and techniques for understanding a museum's artifacts as accurately and sagaciously as one reads a library's printed books. Of course, in developing this pedagogy of products, written sources and oral data will also be utilized wherever relevant to provide as comprehensive and comprehensible an understanding of the past.

The explanatory potential of physical objects, however, remain crucial on my proposed research agenda for future teams of museum and academic historians and their students. In this enterprise, such teams would be engaged in material culture studies, a name I sense may become a new label for certain museum departments of education (I will predict that a label such as Department of Material Culture Studies will be found in American universities before the end of this decade). No matter what the cooperative endeavor is called, it should be staffed by both museum and academic historians who think of their work as a laboratory process, as empirical and experimental yet always humanistic and historical.

In this complicated process of working out both the potency and the inadequacy of the artifact in historical explanation, the original Greek meaning of the word history ("to investigate," "to inquire") applies in the fullest sense. Teach technique, I always urge upon all of us who teach history. Or, to say it another way, teach method, historical method.

Within the history museum one can identify, teach, analyze and evaluate historical method in several modes: the display case; the period room; the temporary or permanent exhibit gallery; the historic house; the total community re-creation. Such communications of the historical method are, almost by definition, usually unavailable in most traditional history classroom contexts. Since I hold that each of these forms of historical explanation is a manifestation of a historian's method, I seek to introduce advanced students to learning how and why museum historians decide upon their selection of artifactual data, why they arrange it as they do, and what does its arrangement reveal about their interpretation of the past. Working in tandem, museum historians and academic historians need to develop course exercises and research programs to demonstrate that a history exhibit, like a history book, happens in a mind as well as in a collection of data. Experiencing first-hand, or better still, participating in the actual processes of doing history in a museum (e.g. researching, organizing, designing, fabricating, mounting, evaluating) reinforces something that historians and their students often forget: history exhibits and history books are constructions or,

more properly, reconstructions of the past. At their best, they are not the past recaptured, but they are carefully conceived, thoroughly researched, imaginatively arranged, human attempts at giving the dead past a present form meaningful to us.

To enable students to recognize this provisional and contingent nature of history—that history books are re-written every generation and even permanent history galleries are torn down every few decades—I expose them to the historiography of historical museum interpretation. To do this, I have tried to develop techniques for evaluating museum exhibitions via written reviews (e.g. "Guidelines for History Museum Exhibit Reviews," *History News*, August: 1980) as well as a primer for understanding house museums (e.g. "Historic House Museums: Seven Teaching Strategies" in *Artifacts and the American Past*, AASLH: 1980). In the past few years, similar teaching techniques have been developed by other historians who seek to involve the students directly in the process of interpreting the history museum and its policies and practices.

I strongly support this aspiration to make the student a perceptive and perennial history museum-goer once he or she leaves the history course. I believe that the communal task of historians, no matter what their institutional affiliation, is to help others think historically, or, as the title of Carl Becker's most famous essay proposes, to make "Everyman His Own Historian." Not, of course, that they become professional historians who write books or mount exhibits but that they do acquire the skills of critically and intelligently reading history books and using history museums with perspicacity and pleasure for the rest of their lives.

"Canadian Collaboration: An Overview," Mary Herbert, Research Associate, Nova Scotia Museum, Halifax, Nova Scotia

On the surface of things, Canada seems a lot like the United States. Canadians gobble up Big Macs, cheer for the Boston Red Sox and watch Shogun for five nights running. Canadian schools look like their American counterparts and are organized in a way which would be familiar to most educators south of the border. Canadian curricula often resemble American curricula and, despite the vigorous efforts of a growing group of publishers and educators, some textbooks are still identical. Canadian museums run many education programmes which, in kind at least, parallel those offered in the United States. For example, most major Canadian museums have a large corps of docents who guide thousands of school children through their galleries each year. With so much alike in Canadian and American museums and schools, what is not alike is interesting because the differences are grounded in similar contexts and so point the way to alternatives. For this reason, what follows emphasizes aspects of museum-school collaboration which are especially Canadian.

Federal and provincial governments play an obvious and active role in Canadian cultural life. One way museums receive advice and financial assistance from the federal government is through the Museum Assistance Programmes of the National Museums Corporation, a crown corporation

founded in 1968. In 1979, the Nova Scotia Museum applied to this programme to help fund me to research and write a report on the present state of museum-school relations in Canada. The following year, the Museum of Anthropology at the University of British Columbia applied to the same programme to assist another researcher to conduct a study of how philosophies of education and theories of learning and development have influenced the practice of Canadian museum education. In awarding funds to these two projects, and in encouraging the recipients to collaborate, the National Museums Corporation was acknowledging that museum education is a fast developing area of museum concern and museum educators are closely bound to the public education system at many levels: as a source of educational theory and research, as the dominant model of how learning happens, and as a major audience for museum programmes.

Despite the federal government's help in funding these projects, school-related museum education is one of the few areas of museum work in which the federal government is not directly involved. Education is a provincial responsibility and each province organizes its education system as it sees fit. Educational structures and practices vary from province to province.

Being involved in museum-school collaboration is especially complicated for museum educators working within one of the four federally-funded national museums within the National Museums Corporation. These museums are responsible for making Canada's cultural heritage widely and generally available or, in the language of Ottawa, to "democratize and decentralize" it. A federal government policy which the National Museum of Man is charged with actively promoting is the Multicultural Policy, the main objective of which is to preserve and share Canada's ethno-cultural heritages within a bilingual, French and English, framework. This policy is reflected in those of some provincial governments. For example, in Ontario the teaching of multiculturalism is part of the provincial curriculum. One of the most active educational programmes for promoting the Multicultural Policy is the National Museum of Man's National Loans Programme through which multimedia artifact kits are distributed across Canada, at no cost to the borrower, in both official languages. Some kits have cross-cultural themes like the "Bread Box" which explores the importance and significance of bread to various cultural groups within Canada; others are about a specific group like "Skin, Snow, Stone and Bone" which examines Inuit adaptation to the Arctic environment. Although the educators who are responsible for these kits bring an extensive knowledge of provincial curricula to their development and the kits are most often borrowed by schools, schools are never mentioned in the promotion of the kits. A few years ago the kits were called Edukits but even that has been abandoned; they are now referred to only as Museum Kits.

Most museums in Canada are administered under some part of a provincial government, usually the Ministry of Culture or its equivalent. A problem for many museum educators, and particularly those who work within provincial museums, is that they are administratively isolated from their provinces' educational structures. Sometimes there are no formal means for communication below the ministerial level; this can lead to confused planning and wasted resources. Museum educators often express frustration and bewilderment at how to communicate with provincial education authorities

responsible for areas of mutual concern like transportation and curriculum development. A typical example would be the experiences of one Manitoba educator who put much effort into planning a meeting with Education staff to discuss how her museum and the Department of Education could work together. When the meeting finally took place, she felt that staff were both "too busy" to think about her concerns and uncertain about what use a museum could be to them. With frustration she described the two suggestions emerging from the meeting: "They said maybe we should do something about children in history or do an exhibit on toys in the past." Another museum educator from western Canada said recently of her relationship with her provincial Department of Education, "The only contact I have is what I initiate."

A number of Canadian educators are beginning to agree that museums and schools do not speak the same language. Museums are mysterious to many teachers. A few months ago, the Head of a Social Studies Department at a large regional high school in the Maritimes attended a meeting at his provincial museum to discuss ways the school could better use museum resources. His astonishment at discovering that some museum employees were involved in historical research is not atypical. Except for those special few who have made the effort to become museum self-sufficient and are usually on a first-name basis with the nearest museum educator, teachers simply do not know how to use museums and the education system does not give them the opportunity to find out.

Bev MacPherson, School Programmes Coordinator at the Vancouver Museums and Planetarium, is not alone in her belief that it is the museums' responsibility to provide leadership in helping school educators become better museum users. As she said in the March 1980 issue of the mimeographed newsletter she sends to a network of forty-three other museum educators on British Columbia's Lower Mainland:

> I am personally concerned that we tend to react rather than act in this area. Leadership in developing and assisting to implement teacher training workshops in the effective use of cultural facilities should originate from us. . . . We should be motivated by the idea that a better educated user group will be more enthusiastic about using our services and will be more capable of critically evaluating our programmes.

Although there is a widespread feeling that leadership must come from the museums, many museum educators are saying the responsibility for giving on-going support for both pre-service and in-service teacher training must come from the provincial education structures. In 1978, Shirley Cuthbertson, Chief of the Education and Extension Division of the British Columbia Provincial Museum, helped to organize and coordinate an experimental course for teachers in the use of cultural resources which involved nine of British Columbia's museums. This course, and others like it across the country, received positive evaluations from the teachers involved, but it has not been continued because the museums do not have the resources to offer it on a regular basis. In an attempt to change this situation in her province, Shirley Cuthbertson recently presented a brief to British Columbia's Joint Board of Teacher Education recommending that "museum awareness" training be incorporated into existing teacher training programmes. The objectives of this training should enable teachers to accomplish the following:

- Know how to find the facility most useful to them.
- Research background information on exhibits, and develop curriculum material from original sources including *objects*.
- Plan for more effective use of field trip time.
- Develop teaching skills appropriate to museums and understand theory and principles of museum teaching (research and questioning techniques for artifacts and specimens, methods of developing perceptual skills using objects, using exhibits for inter-disciplinary teaching, integrating museum visits with teaching units).
- Use museums to enrich their own lives.

Similar directions were recommended in a brief submitted by the Manitoba Museum of Man and Nature to their provincial Department of Education which outlined areas in which the Museum felt they needed the Department's support. Course credit was requested for teachers participating in summer professional development programmes at the Museum and it was stressed that museum education should be a part of the provincial B.Ed. requirements. At the present time, no official response has been made to either brief.

One clear trend emerging in Canadian museum-school collaboration is a belief on the part of museum educators that helping teachers become better educated museum users is one of the most important areas of endeavour. Because of a policy developed out of economic necessity, all of the school-related education programmes at Saskatchewan's Western Development Museum are directed to teachers. What has happened in Saskatchewan is happening less dramatically in many other museums.

Many Canadian museums do have constructive collaborative relationships with various parts of the educational structures with which they are involved. At the Royal Ontario Museum, for example, there are many links between the two. Students from the University of Toronto and Lakehead University can do part of their teacher training at the ROM. Toronto's suburban North York School Board has a museum studies committee made up of teachers who are enthusiastic museum users and who work with ROM staff to develop educational materials. Practicing teachers are regularly seconded to the ROM's Education staff for two year periods and all fourteen full-time members of that staff are licensed teachers.

Another Ontario museum, which must have one of the closest working relationships with a school system of any in Canada, is T. Montgomery's Inn in Etobicoke, a large suburb of Toronto. Restored and furnished in mid-nineteenth century fashion, the Inn is Etobicoke's only museum. It is funded entirely by the Borough of Etobicoke and its existence is in large part justified by the school programme it offers. During the school year, most of the weekday programmes are designed for grades four, seven and eight whose curricula includes local studies. All school programmes developed by the Inn staff are approved by the Etobicoke Board of Education's social studies consultants before they are implemented. Tuesdays, Wednesdays and Thursdays are block-booked by the Board and the consultants themselves are given a set number of these days in which to schedule classes for Inn visits.

Programmes are carefully integrated into the curricula; all classes are pre-visited by Inn staff and there are extensive follow-up activities suggested

to teachers. Usually only one class is booked for each day because it is felt that the experience is worthwhile only if it is unrushed, uncrowded and of high quality. A central idea behind each programme is that museum experiences should not be like school. All programmes are developed directly from the artifacts. The staff is highly conscious of stressing both conservation and historical accuracy. I once misplaced a ballpoint pen in the Inn's tavern which resulted in a vigorous search by several staff members for the missing object. This effort was not prompted by a desire to return the pen, but rather a fear that a child would find it and thus have the quality of his or her experience at the Inn diminished.

In Alberta, at the Edmonton Art Gallery, the Art Supervisors from the city's separate and public school systems sit on the Gallery's Board and serve on its Art Education Committee. Among other collaborative efforts, the Gallery has produced several exhibition catalogues which were specifically developed to also be used as resource materials in high school art classes.

In Halifax, Nova Scotia, the Mount Saint Vincent University Art Gallery has organized a major exhibition, entitled "Great Expectations: The European Vision in Nova Scotia, 1749-1848," which explores European tastes and values as they are reflected in European artists' depictions of Nova Scotia. By working closely with both the Province's curriculum consultants and the Department of Education's Media Services, materials enhancing the exhibition were developed to be of use to both the general public and the Province's students. Supported with a grant from the National Museums Corporation, the poster for the exhibition is a masterpiece of design in that it is both an effective poster and a kind of art history textbook which will be distributed in class sets to teachers who request it. Elaborate and expensively printed, it contains fifteen reproductions of prints, drawings and watercolours from the exhibition and a lengthy text. Through Media Services, a series of three radio programmes has been produced on the art history of Nova Scotia which are intended to be supported by the poster. Through these outreach materials a small and widely scattered school population, separated from Halifax by the perils of impending winter weather, benefitted from this exhibition when it opened in October 1980.

Unlike any other province in Canada, in Nova Scotia the provincial museum is part of the Department of Education and is administered under the Education Resource Services Division. Education is at the core of most Nova Scotia Museum activities. As part of the job description of *all* professional staff, up to fifty percent of one's time is to be spent on educational activities. Members of the Education Section are titled "curators" to emphasize their importance to the institution. The Deputy Minister of Education sits on the Museum's Board and often there are collaborative efforts between the Curriculum Development Division of the Department and Museum staff. One member of the Education Section is designated as the liaison person between the two. Collaborative efforts have resulted in, among other things, a series of environmental studies guides for grade ten biology classes and a museum kit programme which has been developed specifically for school use.

Outreach is a concern of many Canadian museum educators because the populaton of Canada is small and widely dispersed. At the Nova Scotia Museum, in order to make museum resources more accessible across the

Province, the extensive museum kit programme has been developed. At thirteen locations, including libraries, teacher centres and regional museums, copies of twenty-one kits and collections are available on loan to the area's teachers. Topics are tied to the Nova Scotia curriculum and include titles like "Grave Nova Scotia: A Cemetery Survey," "Black Heritage," "Animal Signatures" and "Crabs, Lobsters and Shrimps." All kits are recalled in June for refurbishment and updating by university students employed for the summer. In the early autumn, they are collected from the Museum by the people who will be distributing them. At that time, these people attend a two-day workshop on effective use of these kits in the classroom.

There is much more to say about Canadian museum-school collaboration which can only be mentioned in this article. For example, in Quebec there is a keen sense that cultural activities are vital to that province's future and they are a far more integrated part of everyday life and thought than in most other parts of Canada. Material culture is more generally seen to be part of one's patrimony and the concept of the ecomuseum, a museum without walls, has some acceptance even at a local level. This awareness of objects as culturally significant is beginning to be felt in a school system which has, in the past, been one of the country's most conservative. Across the country since Canada's Centennial in 1967, there has been a proliferation of small museums. Often there are persons associated with them who have, through personal vision and determination, established dynamic relationships with local teachers. Frequently these collaborative efforts have no life beyond the interest of the individuals involved. Canadian art galleries, whose character is different from the major American art museums, are involved in innovative collaborative efforts which have only been touched upon here. Prompted both by fiscal restraints and the increased interest in museums by educational researchers, evaluations, including programme evaluations, are becoming more common and thorough. Also, the use of qualitative strategies in the museum setting is receiving more attention by researchers and museum educators alike.

This article is by no means a complete description of Canadian trends in museum-school collaboration. What it does do is provide both Canadian and American educators with information to help them make the contacts necessary between and among museum and school educators on both sides of the border.

Early Planning

How do we develop the partnership? How do we evaluate the results? Do you evaluate the partnership or the program? Do you evaluate from the school or museum point of view? Determine the criteria for evaluation early into the collaboration and set aside time and money for it.

"Guidelines for the Evaluation of Museum-School Relations"

Mary Ellen Munley, Consultant in museum evaluation, Frederick, Maryland

Museums and their programs have long enjoyed the privileged position of unquestioned worth. Without denying the cultural and educational value of museums as institutions, the real world of the 1980s demands that museum professionals begin to demonstrate the value of their offerings. Funding agencies, government revenue sources and administrators are asking for concrete evidence to demonstrate that the programs they fund are proving to be worthwhile investments. The age of accountability is upon the museum, and it is no surprise that there has been a corresponding resurgence of interest in museum evaluation strategies.

It is within this context of increased evaluation awareness that I will examine possibilities for assessing museum-school relations and programs. Knowledge about evaluation in the museum has grown in the past few years. Evaluation practices have become more sophisticated and expectations for any evaluation effort have risen. This short paper presents a guide for conducting evaluation projects under the direction of museum staff members who are not trained in evaluation. It should be realized that untrained persons with responsibilities for other than evaluation cannot conduct elaborate evaluation studies. It *is* possible, however, for the efforts of these staff members to be maximized by focusing the scope of the study, systematizing information collection and presenting a sensitive report designed with decision-making in mind.

Too often a person already overextended takes on the additional responsibility of doing an "evaluation" of a program without being fully aware

of the steps necessary to the successful completion of the task. An evaluation project is successful if it produces information which is useful to the decision-makers in the museum and in the school. This means that the potential uses for the information must be thought of from the outset. Furthermore, information which is not potentially useful in decision-making is not worth acquiring. Evaluation for evaluation's sake is a waste of limited resources within a department. However, evaluation focused on a set of critical issues and responsive to the concerns of chosen audiences is a valuable enterprise.

Evaluation Guidelines

There is a set of considerations important to the successful completion of any evaluation project. The following steps should be taken in every evaluation study:

1. Determine the purpose of the study. There are a variety of useful reasons for embarking on an evaluation project. You may wish to provide information about increased participation in your program, demonstrate the diversity of your audience to a political agency, justify the existence of your program to a skeptical administrator, respond to a need for information from a particular department in the museum or promote a general understanding of your program. Any of these is a legitimate purpose for a study and can certainly be addressed through evaluation. In a well-done evaluation, the design, scope and mechanics of the study will vary with the purpose. The important point is that the staff involved be fully aware of the purpose of the evaluation from the project's outset.

2. Make cost estimates and negotiate specifics. While a museum may decide to hire a professional evaluator, it is less costly to use staff members to conduct evaluation studies. Still, evaluation is a costly endeavor. Monies need to be allocated for supplies and staff members need to be released from other time-consuming duties for the duration of the project. Costs need not be prohibitive, but they do need to be identified and planned for in advance of the beginning of the study. It takes time to conduct interviews, pass out questionnaires, complete observations of visitor behavior and prepare an evaluation report.

Local universities are a good source of expertise. Faculty members in schools of education and departments of sociology and psychology are most likely to possess the expertise needed for a museum evaluation project. Graduate students in these departments are usually qualified to assist with portions of studies. They are willing to offer their services for nominal fees and, oftentimes, they are willing to work in the museum solely for the valuable experience.

3. Identify primary audiences and issues. That evaluation is best which focuses on issues of importance to the intended audience(s) for a study. Before designing your study, spend some time determining the type of information to which the intended audience will be most receptive. All issues related to a program are not of equal importance to decision-makers. Why complete a study of museum-school programs only to find in retrospect that the one issue on the mind of the school superintendent, for instance, was not addressed? Talk with audience members as the evaluation is planned. Ask what information would be most useful to teachers. What do school administrators want to know about the program? What do museum

staff members want to know? One evaluation study cannot address all the issues; select issues for study wisely. You are in better control of your evaluation project if it is clear for whom the study findings are intended and if issues for investigation are selected which are identified as important to those intended audiences.

4. Identify all possible sources of data. You may already be using sources of data useful to evaluation. Conversations with teachers, students, school administrators, parents and various museum staff members are all potential sources of data about museum-school relations. If you don't speak with these people regularly, then you should begin. If you already speak with them, engage them in discussion of the issues selected for study and be sure to document their responses. Jot notes to yourself whenever something pertinent to your issues is said. Later, take time to write down exactly who said what, about which issue and under what circumstances. Documentation is essential.

In addition to conversations and interviews, observation of program participants as they interact with the program offerings is another source of information. Few professionals fail to watch their programs in action. To get the most for your time and effort, engage in systematic observation. Just as with the conversations, document your observations so that the information will address issues of importance to decision-makers and will be in a form which can be shared with others.

5. Develop data collection tools. The first inclination of most people when faced with the task of doing an evaluation is to begin to write a questionnaire. Traditionally, museum evaluations have been conducted through the use of questionnaires. However, there are more tools available.

Questionnaires, systematic observation and interviews are three means of collecting information about a program which have been used in the museum context. Each of these methods requires that the evaluator spend some time developing a specific tool to guide the evaluation procedure. For instance, to interview students about the experience they have had in your museum-school program, first develop an interview schedule. The same preparation is necessary for the other two modes of data collection—a questionnaire must be carefully designed and an observation protocol should be developed to structure observation activities.

While preparing tools for use in your evaluation project you may wish to consult an expert. There are as many ways to develop a questionnaire as there are reasons for doing an evaluation. Questions on a questionnaire can help you to develop a profile of the participants in your program, determine how much information the participants learned, elicit opinions from participants about the program or even (by using pretests and posttests) determine how much influence the program had in changing attitudes.

Evaluation can involve a good deal of creativity. Don't lock yourself into thinking that the only questions you can ask are: "Did you find this experience worthwhile?" or "Name the four types of cloud formations discussed by your docent." Items for questionnaires can test for memorization of facts, understanding, comprehension, ability to apply a concept learned and valuing. The issues you can address through interviews and observation are limitless.

Try to identify and use resource people in your community who can

assist you in the development of tools for evaluation. There are techniques for writing questionnaires, asking questions and observing which can help to assure that you will have valid, useful information as a result of your evaluation efforts.

6. Conduct data analysis and report preparation. After collecting information, the next step is piecing the discrete bits of information into a meaningful report. The format of the report (written document, oral presentation, media presentation, etc.) will depend on the audience for your study findings.

7. Foster implementation of findings. You can increase the likelihood that study findings will be used in decision making by demonstrating a sensitivity to the needs of the intended audiences. Present a digestible report which clearly addresses issues of known concern. Indicate alternative courses of action and be ready to present information when it is needed.

Evaluation of Museum-School Relations

The task of evaluating a museum-school program is two-fold, requiring the exploration of the *relationship* between the museum and the school as well as exploration of the impact of a *particular program*. The impact of the program and information about the potential success of future programs can only come through examination of the program within the context of the overall relationship between the school and the museum.

Although some museum educators have, no doubt, attempted evaluation of their school programs, there is little reporting of that research available through public sources. One of the few studies about the impact of a museum-school program was completed in 1929 by Marguerite Bloomberg at the Cleveland Museum of Art. One can read that report, marvel at its sophistication and wonder why the museum profession has not continued to document the results of its educational efforts.

A museum educator wishing to embark on a research program designed to document program impact can begin by following the guidelines listed in this paper. If you are an untrained evaluator, you should first familiarize yourself with information available about evaluation and should continually use consultants on an intermittent basis. Effective planning of the evaluation project will allow time for preparation and consultation.

This brief statement about evaluation outlines the steps necessary to conducting a study. The following materials provide more specific information.

General Evaluation Background

The thinking of persons who currently influence the field of museum evaluation is presented in the following pieces:

Screven, Chandler G. "The museum as a responsive learning environment." *Museum News*, 47, 1969, 7-10.

Shettel, Harris H. "Exhibits: Art form or educational medium?" *Museum News*, 52, 1973, 32-34.

Wolf, Robert L. and Barbara L. Tymitz. "A preliminary guide for studying museum environments." Office of Museum Programs, Smithsonian Institution, Fall 1978.

Evaluation Methods

The following references are good introductions to the mechanics of evaluation work:

Campbell, Donald T. and Julian C. Stanley. *Experimental and quasi-experimental designs for research.* Chicago: Rand McNally, 1963.

Guba, Egon G. *Toward a methodology of naturalistic inquiry in educational evaluation.* CSE monograph in Education, vol. 8. Los Angeles: Center for the Study of Evaluation, 1978.

Selltiz, Clarie, Lawrence S. Wrightsman and Stuart W. Cook. *Research methods in social relations.* New York: Holt, Rinehart and Winston, 1976.

Webb, Eugene, Donald T. Campbell, R.D. Schwarz and L. Sechrest. *Unobtrusive measures: Nonreactive research in the social sciences.* Chicago: Rand McNally, 1966.

Effective Use of Consultants

The services of a consultant can be expensive. This reference devotes an entire section to information on the effective use of the consultant in the museum:

Kent, Frances Beth and Mary Ellen Munley. *Advice with consent: Consultants in the museum*. Office of Museum Programs, Museum Reference Center, Smithsonian Institution, Spring 1979.

Evaluations of Museum-School Programs

The studies listed below are not presented as models. While they have strengths and weaknesses as examples of research efforts, they are best read as background information. These five studies reflect the kind of research conducted with museum-school programs. A perusal of the dates of these studies demonstrates that although educators once shared information about their school programs, dissemination of evaluation reports has been sparse in the last thirty or more years:

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Gibson, Katherine. "An experiment in measuring results of fifth grade class visits to an art museum." *School and Society,* 21, 1925, 658-662.

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"Appraisal of the Collaboration," Boston, Springfield and Sturbridge, Massachusetts

Accountability is a popular catchword today. While it is important that scarce funds be spent wisely and their disbursement and effectiveness be reported on, for the museum-school collaboration, an evaluation can serve as more than an exercise in accountability. Early into the planning of the museum-school collaboration, time must be built in for an on-going evaluation. The museum-school team needs to consider what will be evaluated—the partnership, the program, both? A joint look at the partnership can provide opportunities for more than merely assessing the success or lack of

same of a specific program. It can also support the setting of mutually useful objectives, the learning from each other, the understanding of each other's needs, the establishment of additional partnerships—simply, the strengthening of the present and future relationship.

The Cultural Education Collaborative of Boston and Springfield, Massachusetts, helps schools and community groups plan and carry on educational programs with cultural organizations. Over the past five years, the Collaborative has coordinated scores of programs between public schools and cultural organizations. These all were designed to go far beyond the traditional field trip or single-visit performance. These programs have demonstrated that strong partnerships between schools and museums, performing companies, science or art centers can improve and strengthen basic teaching and learning.

Cultural Education Collaborative

The following material is excerpted from the Collaborative's useful publication, "Questions Schools Should Ask to Build Strong Partnerships with Cultural Institutions." It appears here with permission from the Cultural Education Collaborative.

(The Collaborative has) found through evaluation of these programs that partnerships which last have at least five important elements in common with one another no matter what the academic discipline or location of the community. Initial IDEAS are developed through careful and sensitive PLANNING by many PEOPLE. During implementation, MORE PEOPLE are involved in the program in a variety of ways until attention is shifted toward future planning for CONTINUITY.

(These) questions are critical for *schools* to ask if they are interested in building strong partnerships with cultural organizations.

Ideas

Before beginning to plan with a cultural institution:

1. What are our school system's, and our school's major curriculum priorities this year? What do we want to bring about in the lives of children?
2. Are there some specific curriculum issues/ priorities for which we might use the resources of cultural institutions?
3. Which (or which types of) cultural institutions might be helpful to us?
4. When we contact a cultural institution about a long-term program, we should be prepared to ask:
   - **a.** Does the institution have an education staff or department?
   - **b.** What is their past experience in doing school programs?
   - **c.** Does the institution have a staff member who can give sufficient time to coordinate a school program (and be accessible enough to solve day to day issues)?
5. If we plan to work with a cultural institution to assist us in meeting our priorities, *we should ask ourselves:*
   - **a.** Who are the people from our school who will be directly involved in the program? (administrators, teachers, parents)

b. Are these people able to make the time commitment necessary to guarantee program success?

c. Will all the people who will be potentially affected by this program in our school (direct and indirect participants) have an opportunity to participate in planning it?

d. Is the principal an advocate for using the resources of cultural institutions to help in meeting our school priorities?

After responding to the above, the school should be able to make a preliminary decision about the cultural institution with which it wishes to begin planning.

Planning

In preparation for your first meeting with a cultural institution, you should ask the following:

1. Are our school's curriculum priorities and curriculum needs for the year written down so the cultural institution staff can respond to them?
2. Has the cultural organization prepared a short abstract of its resources or programs for school reactions? (It is often easier to begin planning by reacting to something in writing than to start from scratch.)
3. Does everyone know who else will be attending the first meeting, and what the agenda will include? (The first meeting should be introductory; a complete program cannot be planned in just one meeting.)
4. Has the time, date and place for the meeting been confirmed with everyone who is expected to attend?

At the first meeting, your school's priorities and preferred teaching and learning strategies should be shared. Determine where there is room for flexibility. It is critical to exchange information on what you know about one another, and what expectations you have for one another. Pay close attention to mechanics, like school calendars, scheduling, space and materials, organization and structure of the cultural institution. Establish a procedure to follow if expectations for the mechanics must be altered. Consider the roles of school personnel and parents. Review the discussion and assign tasks. Perhaps a joint school-cultural institution proposal writing team needs to be appointed. An account of all meetings should be typed and circulated to all participants. Drafts of program proposals under consideration should be circulated prior to meetings if possible.

People and More People

While you are conducting a program, you should ask:

1. What plans have been made for maintaining open and regular communication among all project participants?
2. Do plans include providing an opportunity for participants to review program progress and make mid-course modifications?
3. What strategy will be used *(and who will have major responsibility)* for generating program information to the larger school and cultural community at regular intervals?

4. Who are the critical decision makers affecting the continuation of this program? What is the best format to get regular program information to them?

Continuity

While you are conducting the program, you should ask:

1. What time is set aside toward the end of the program for project participants to reflect on the current program and plan for future directions?
2. Who are the critical people necessary for planning future directions?

Old Sturbridge Village

And, from the staff of Old Sturbridge Village, Sturbridge, Massachusetts, come these criteria for use when analyzing your plan for a museum-school collaboration. The information, from the Old Sturbridge Village manual, *Building Collaborative Programs: Museums and Schools,* is used with permission.

1. Usefulness

   To what degree is your plan perceived as more useful or better than previous ideas or programs?

   What is the advantage of this plan to you and to others?

2. Compatibility

   To what extent does the new plan or idea fit with other plans?

   Does it create conflict with the museum/ school schedule or operating practices?

3. Complexity

   Is the ease or difficulty encountered in implementing the program worth the effort?

   To what extent is the program plan too complex to repeat? How did the "pilot" work?

4. Observability

   Can you see any change as a result of this plan?

   Did anyone express a feeling for, or a sense of, the program?

Building any program involves many elements. Building a collaborative program between institutions increases the number of elements necessary for success. The program becomes a group's possession which results from many compromises. Truly, group "ownership" is important if you are to sustain the program over time.

Planning and candid sharing of thoughts are critical to the process. Money has not really been mentioned, but that can be a problem if you plan beyond your budget. Many will react "but we need money to do that." In many cases, you already have the money and can merely reallocate resources. Plan *small* at first. Many successful ideas began without any grant money.

***"Qualitative Evaluation of Cultural Institution/ School Educational Programs,"* Brenda S. Engel and George E. Hein, Co-Directors, Program Evaluation and Research Group, Lesley College, Cambridge, Massachusetts**

On July 15th, 1974 the House of Representatives of the Commonwealth of Massachusetts passed Chapter 636 of the General Laws of Massachusetts, amending the Racial Imbalance Law. This act guaranteed supportive funding to cities and communities which were attempting to balance school populations. Among the specific provisions was the following: "The board of education may contract with any other public or private facility for the purpose of purchasing magnet educational programs." Consequently, major educational programs were established which brought educational institutions (including most of the area's colleges and universities), businesses, and cultural institutions to work in cooperation with the schools in Boston, Springfield, and other urban areas. Specifically, this sentence was responsible for introducing thousands of Boston and suburban children to the City's cultural resources and to the repositories of their own cultural inheritance: museums and performing groups.

In the spring of 1975, the first year of Chapter 636 programs, 1,300 students participated in pilot programs involving cultural institutions. The following year, 2,272 students from fifteen Boston public schools took part in sixteen programs offered by four museums, five performing groups, and one community center. Since then the demand and offerings have increased each succeeding year. The programs have also become more sophisticated and generally increased in quality. In the fall of 1979, the Cultural Education Collaborative, an organization which has played a major role in coordinating these efforts, listed ninety programs offered by twenty-eight institutions or groups in cooperation with eighty schools.

In the summer of 1976, we (the Program Evaluation and Research Group at Lesley College in Cambridge, Massachusetts) made a proposal to the Cultural Education Collaborative to evaluate the forty programs (twenty-three organizations working with fifty-three schools) which the Collaborative coordinated that year. Formal evaluation by an outside group was required since federal and state funds were invested. The plan which we proposed and which the Collaborative accepted was based on our belief that qualitative means, with a stress on documentation, observation, and use of the program activities as part of the evaluation, were the most appropriate form for evaluation of most on-going school programs. This evaluation style was particularly suitable for evaluating the kinds of programs offered under Chapter 636: arts activities where achievement is always difficult to measure, science programs with emphasis more on development of attitudes and scientific methods than on accumulating information and other cultural programs which stressed interaction between participants, exposure to the institutions, or which assisted schools in developing performances or thematic presentations.

Our thinking about evaluation was based on the premise that evaluation means a comparison of theory with practice and that the activity of evaluation thus entails an examination of the relationship between what is intended and what takes place. In the case of the cultural programs, practice

was to be described through documentation: a comprehensive collection of records on each program, as well as observations and interviews; theory was to be derived from the objectives and goals identified in the proposal, state, and city priorities, discussion with program staff, and our own views of what constitutes good education. Our proposal was accepted in the fall of 1976 and the evaluation procedures we used for the next three years followed very closely this original plan.

The programs to be evaluated presented some considerable challenges. The twenty-three cultural institutions varied in size from a basically one-person theater "group" to venerable landmarks like the Museum of Fine Arts with an education staff distinct from the curatorial and administrative personnel of the institution. The nature of the institutions also varied: science museums, neighborhood art centers, conservatories, dance companies, theater groups, and even groups which acted as brokers for other artists and craftspersons. As could be expected, the content of the programs differed dramatically. Some took place at the cultural institutions, some at schools, and some in both settings, while still others spent considerable time at third sites. Program arrangement followed no one pattern: some were brief and intense (every day, all day, for two weeks, for example); some continued throughout the school year (one hour a week). All grades from first to twelfth were represented, and the numbers of children involved varied from a handful to hundreds. In short, the number of variations was enormous.

The programs had only two things in common: each involved a cooperative effort between a cultural institution and one or more schools, and each had as one of its objectives some effort to assist the Federal Court mandated integration process in the Boston public schools.

In order to avoid chaos and confusion, and so that we could provide some overall view of the programs, we wanted to present a uniform approach to the evaluation. At the same time, we recognized that because of the variety of parameters involved, we could not mandate specific methods or a single set of instruments for all the programs. The solution to the dilemma was found in use of a standard "matrix" as a kind of evaluation map: an organizational tool which provided a framework for the data and the range of possible choices of instruments. Within this framework, individual evaluation plans could be designed. To extend the metaphor, a map was printed on which individual trips could be charted. Since we wanted to encourage a view of evaluation as "assisted self-reflection," it was important that the plan for each program be designed cooperatively by the evaluators and project personnel (later, school representatives were also included) and that evaluation tasks themselves be shared whenever possible. A description of one particular evaluation, a "case history," will help clarify the methods and format.

"World of Water" took place from January to March 1978, at the New England Aquarium. This particular program brought together at the Aquarium sixth grade students from an urban and a suburban school for twenty two-hour sessions on marine science and ecology.

An initial interview was set up for early December between one of the authors and the institution coordinator. The purpose of this interview was to establish a common understanding about theory and procedures since it was desirable to reach an agreement from the start about what would consti-

tute a valid and representative information base for the evaluation. We also needed to translate the objectives from the proposal into ordinary English, synthesize them with the goals of the city and state for magnet programs, and find out if previous goals or activities had changed since the proposal was written six months previously. (Evaluation of the program would finally consist of comparing these intentions to the information base yet to be accumulated.)

We began our conversation at the Collaborative's office in downtown Boston with the institution's coordinator providing a verbal description of the program arrangements: schedule, locations, personnel, activities, etc. This information was recorded on a form headed "Intake Interview." By the process itself of asking questions and entering information on the form, the evaluator gained a general sense of the shape and purpose of the undertaking as well as some understanding of the coordinator's style. After the interview form was complete, we took up the matrix and the frequently frustrating but essential task of translating project objectives into "areas of interest." This turns out usually to be a painstaking, difficult process since objectives are written for an assortment of purposes having to do with obtaining funds, presenting a convincing picture, justifying a need, and so on, so each objective is likely to contain a mixture of claims, approved sentiments, hoped-for results, criteria for success—all described in a language unto itself, "proposalese." As written, then, objectives often are not usable and the ones listed in the Aquarium's proposal were no exception: "Students will demonstrate an increased understanding of the concepts relating to the specific aquatic and land animal knowledge included in the curriculum as measured by the pre/post tests" was the first one listed under "cognitive" program objectives.

In this case we were able to translate the objectives and sort them out into areas of interest under the three general headings listed in the matrix. "World of Water" was designed to teach children some basic skills (vocabulary, spelling, and observation); it included information for children to learn (about habitats, kinds of animals and marine careers), and it introduced them to some concepts (deductive reasoning, balance of nature). The program also addressed a number of attitudinal issues (racial, ethnic, sexual, and urban/ suburban integration, self-knowledge, and interpersonal and process skills) and was concerned with documenting the involvement of various groups (students, staff, parents, and teachers in the program, as well as other teachers at the school). Finally, the staff was interested in the program's relevance to both the school and the cultural institution. This set of areas of interest covered the topics of concern to both the Cultural Education Collaborative and the state funding agency, as well as the interests of the program staff.

The process of translating objectives into areas of interest actually meant that the evaluator, having received information about program planning in order to fill out the Intake Interview, was now asking *why* the program had been planned as it had. We listed the agreed-on areas of interest vertically down the lefthand margin of the matrix in the appropriate spaces. We then selected the means of data collection and wrote them in across the top of the matrix: observations, interviews with school personnel, project personnel, pre/post tests, printed documents, children's work, teachers'

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Matrix

Program: World of Water

Institution: New England Aquarium

School(s):

Objectives/areas	Observations	Telephone interviews: principals	other:	coordinator	director of education: aquarium	teachers	Single interviews (notes on): other:	students	Group interviews (notes on)	Tests: pre post	Printed documents	Program products/children's work	Audio-visual means: photos	teachers	staff	parents	Evaluations:	Notes
I. Educational issues																		
Basic skills						✔												
Worksheet:																		
vocabulary											✔	✔		✔	✔	✔		
spelling	✔									✔								
Observations																		
Information																		
Specifics about:																		
habitats				✔		✔		✔										
kinds of animals	✔									✔	✔	✔		✔	✔	✔		
etc.																		
Marine careers																		
Concepts																		
Deductive reasoning																		
Balance of nature	✔			✔		✔		✔		✔	✔	✔		✔	✔	✔		
II. Attitudinal issues																		
Integration													✔					
Racial	✔			✔		✔												
Sexual														✔	✔	✔		
Ethnic																		
Urban/Suburban																		
Awareness																		
Self knowledge																		
Interpersonal	✔			✔		✔							✔	✔	✔	✔		
Process Skills																		
Involvement/response:																		
Students		✔				✔		✔					✔	✔	✔	✔		How other teachers in school view prgm.
Staff						✔		✔					✔	✔		✔		
Teachers		✔		✔		✔		✔					✔	✔	✔	✔		
Parents													✔		✔	✔		Use materials at school.
Other				✔										✔	✔	✔		
III. Institutional Issues																		
Relevance to school		✔																
Relevance to institution				✔	✔													Also interview w/ Dr. Little

evaluations, photographs, staff evaluations, and parents' evaluations. We took into account, in making the selection, the nature of the program, ages of the children, resources available, instruments already developed and successfully used by the Aquarium staff, our preferences as evaluators, limitations of time, energy and funds, and the need to represent the views of all constituencies involved. The means of data collection across the top were then cross-checked with the areas of interest to make sure the plan would be adequate: that is, that there would be multiple sources of information for each major area of interest. We have found that use of at least three sources is desirable.

The cross-checking not only insures adequate coverage, it also provides guidelines for each instrument: for instance, one can use the matrix to plan questions for a student interview by reading down vertically from "student interviews" and noting what topics are cross-checked. In addition, the left margin listing would eventually provide the outline for written evaluation reports.

Although the matrix provides the framework for the topics covered in the evaluation, we try to structure the actual data collection in such a way that we are open to receive additional information: observations are open, not following a specific schedule or check-list; materials collected are read completely, not just scanned for particular topics determined previously. It turns out in every case that the data collected permit us to draw conclusions about areas of interest larger and more extensive than those specifically listed on the matrix. Some of the program's themes emerge from the data.

At this point it remained to divide up responsibility for the evaluation tasks between the project personnel and evaluation group and assign dates for each activity. The evaluation group assumed responsibility for interviews with students, teachers, coordinator, principals, and for three observations; the project personnel agreed to deliver parent, staff, and teacher evaluations of specific lessons, photos, samples of children's work, duplicated materials (like lesson plans and schedules) and pre/post tests.

The interview with a coordinator with whom we had worked previously had taken about an hour and we left with a sense of confidence that the evaluation procedures would be orderly and feasible; also that we had jointly validated a process and thus gone a long way towards establishing the validity of the final evaluation, whatever it would turn out to be.

Over the next three months we carried out the agreed-on tasks and, at the same time, gave verbal feedback to the Aquarium staff, particularly following observations. We also reminded the program staff of their responsibility to collect and forward to us their share of the data. When the last observations, interviews, journals, children's products, etc. had been collected, the file for "World of Water" had become thick—literally and figuratively. At this point, in late March, we began to formulate the report which would soon be due to the Collaborative, Boston School Department, and Massachusetts State Department of Education. Our task was to go through the mass of accumulated data and extract meaning from it—meaning derived from holding up the description of the program represented by the file against the program's theory or intentions represented by its goals and objectives. The outline from the matrix provided the symbols for organization. We went through the materials chronologically from January through

March, identifying all significant references or supporting evidence to do with the areas of interest, putting outline symbols in the margins. For example, a teacher's opinion was recorded in an interview: "He feels that the (student) pairings worked out well and that children worked together most of the time. However, when kids finished they tended to go off—which he thought was normal." The symbol "IIA" was noted in the margin next to these sentences, indicating that they had relevance to the topic of "social integration" between the two groups of school children. IIA was noted wherever the subject of social integration was discussed or illustrated—in observations, photographs, staff, teacher, or parent evaluations, children's work, etc. We also added some categories with new symbols as issues were seen emerging from the data. All these marginally noted references were retyped, cut up and sorted out by outline symbol in an appropriate order. Thus, when we came to write the report, we laid out all the IIA references—an array of clippings reflecting various views, kinds of evidence, and statements bearing on the topic of social integration. It became a relatively straightforward job to compare these representations of events and reactions to the programs' stated goals and objectives: evaluation, in short.

The final report closely reflected the entire documentation process. Each statement was supported by examples and quotations from the documentation representing the views of all persons involved in the program, including the students. All the understanding and information embedded in the documentation was brought to bear on the program's purposes: practice held up to theory with congruencies and disparities pointed out. The actual form of the report again followed the matrix outline, beginning with "Educational Issues" and ending with "Relevance to Institution."

An important additional section was included, headed "Further Findings," in order to accommodate any salient conclusions which emerged from the documentation (for which the new symbols had been added). Objectives and goals are never adequately comprehensive and one has to allow both the space and attention for significant aspects of a program which may not have been anticipated at all and which may appear in quite unexpected guise. In the Aquarium program (as in many others), for instance, the question of timing emerged as important. Several persons interviewed reported feeling rushed and we observed that buses arrived late, further exacerbating the feeling of pressure. These reactions were noted under "Further Findings" and a recommendation made that it was "advisable to allow extra time not only for the possibility of snow days and late buses but also for children's unanticipated interests, questions, constructive lingering, social exchanges, etc." (Summary Report). Another unanticipated (by us) positive aspect of "World of Water" was the amount of opportunity given to the children to represent the Aquarium experience through art activities. "It (art) added interest for the students and provided a means for them to re-state and consolidate their learning." (Summary Report)

To carry out the cooperative nature of the evaluation, the report was sent in rough draft to the coordinator for comment, disagreement, and additions before being put in final form.

This, then, is a description of the procedures we have used in evaluating cultural institution/school programs and an account of the rationale which lies behind these procedures. Evaluation of the kind we practice is more

than a technology—it requires identifying patterns and teasing out meanings, as well as collecting and summarizing data. We know we have been successful when those responsible for conducting a program recognize a report as being true to the program, regardless of whether the dominant tone is positive or negative; when a project coordinator says, "Yes, that's right. That's what happened." When the element of description is concrete and accurate, when it rings true, evaluation gains credibility, and, consequently, the possiblity of effectiveness.

"What Changes Have We Made?" Hartford, Connecticut

Nearly all museum staff have received charming and sincere, ill-spelled but eloquent thank you letters from students who have recently visited their museum. Sometimes the classroom teacher will add a post script of appreciation too. The education staff of the Wadsworth Atheneum in Hartford, Connecticut was not satisfied with these very informal evaluations. They asked themselves, "How can we come to know what students take away from a museum visit?" Funds from the National Endowment for the Arts afforded them the chance to find out.

In his final report of the Museum Evaluation Project, July 1978, Thomas Weinland, professor of curriculum and instruction at nearby University of Connecticut at Storrs and consultant to the project, made these comments:

"Specifically . . . (the project) hoped to accomplish five goals. First, the staff sought to learn what information about art the students learned from their visit. Second, the staff hoped to learn if, as a result of their visit, students gained in the ability to express themselves about art. Third, the staff hoped to learn what variables, such as age and previous museum experience, influenced student learning. Fourth, the staff wished to assess student reaction to the museum visit. Finally, the museum education staff hoped to analyze their tour 'teaching' techniques and, if possible, relate these to student learning."

To accomplish these ambitious goals the staff needed first to determine which of three programs would be the focus for the evaluation. Weinland recalls, " 'Shape' and 'Wood,' were rejected as being too narrowly focused for the kind of broad evaluation the staff hoped to get. The third . . . 'Through the Artists' Eye' offered the desired breadth but presented a number of difficulties in defining the tour's objectives, program and questions. The most ambitious of the tours, it was also the most challenging to evaluate. All of us will confess to an occasional wistful look back to . . . 'Shape' . . . and its simplicity and greater ease of measurement."

A list of the goals for "Through the Artists' Eye" clarifies that statement:

- Students will know and use some vocabulary of art criticism.
- Students will know how an artist uses color, composition and placement to influence the viewer's response.
- Students will use a work of art as a basis for understanding the sources of both the artist's inspiration and decision-making process.
- Students will project themselves and their feelings into a work of art.
- Students will make qualitative judgments about a work of art and explain their views.

This program includes an in-school visit by a docent which precedes the museum visit. At the museum, the students, grades three through six, focus their attention on ten paintings.

Weinland recalls their efforts to use existing evaluation instruments in the Atheneum's Museum Evaluation Project. "An examination of the 'state of the art' of testing art museum education programs turned up nothing . . . (because) other museum-developed tests were tests of specific knowledge with no items for self-expression or reaction to the museum tour. Our initial decision was, then, to develop our own test."

Pre- and post-tests were developed which used slides to explore students' understanding of concepts of art criticism—background, foreground, use of color, placement of subject or viewer, light, detail. Part One of the test incorporated these concepts into four questions for each of five slides. Students were asked to respond "agree," "not sure," or "disagree." The museum education staff determined correct answers; "not sure" was not counted as correct.

Part Two measured students' reactions to paintings through two types of questions. Reacting to slides, students were asked to indicate how the artist made them feel. They chose from given terms to describe their feelings. In another instance, students were asked to evaluate a painting (like/dislike) and to justify their response with a written statement. Again the museum education staff served as the final jury. The post-test also asked students to evaluate their museum visit by answering seven statements and two open-ended questions.

The report further describes the evaluation instruments. "The student evaluation instrument was only one part of the evaluation program. Of equal importance was an effort to evaluate the 'process' of the museum tour itself. Recent analysis of school classroom dialogue reveals two findings of importance for museum educators. First, the type of question asked largely dictates the type of response given. . . . A question which asks for analysis of an idea tends to elicit student analysis. A second finding . . . is that classroom dialogue characterized by student analysis . . . was reflected in higher student scores on a test of critical thinking."

The education staff of the museum developed a rating instrument which could be used to evaluate a museum tour based on a dialogue analysis system developed by Byran Massialas for social studies classroom discussions. They refined the coding system developed by Garda Bowman and Rochelle Mayer for the Bank Street College of Education, New York, to suit their needs. This coding system was introduced to the docents, because familiarity with the coding system made them more aware of the kinds of questions and answers present in their discussions with the students. (Weinland and Richard L. Bennett explain this dialogue analysis more fully in their article, "Museum Education: Monologue or Dialogue?" *Roundtable Reports*, Summer 1977.)

The test group of 294 students ranged from grades three through six with fifth graders making up nearly half the group. The results of the evaluation of "Through the Artists' Eye" were generally affirming for the Wadsworth Atheneum staff. Students gained from pre-test to post-test in their knowledge of art and in their ability to evaluate an artist's purpose. Third and fourth graders varied from fifth and sixth graders in their more positive

attitude toward the museum visit. In light of these positive findings, Weinland offers a caveat: "Highly significant statistical results . . . are not always the same as significant program results." He sums up. "Despite the reservations and limitations . . . , this evaluation, . . . the student test and the observation system developed to carry it out, are important steps for museum education programs. As museum education evaluation gains in importance and sophistication, this . . . evaluation project should prove a valuable resource. . . ."

In a recent telephone conversation, Weinland added, "There is a need for experimentation and improvement of the kind of evaluation undertaken at the Wadsworth Atheneum. Museum people should not be afraid to go beyond the obvious evaluation of facts and more concrete objectives. Our evaluation pointed toward the possibility of upgrading the level to evaluation of intellectual activity and the more abstract qualities of a museum experience."

Working With Traditional School Audiences

Who initiates the collaboration? In which setting—the museum or the school? Are there common reasons for establishing a museum-school partnership?

3

"Building a Partnership," Beaumont, Texas

Working together is not a novel idea for schools and cultural organizations of Beaumont, Texas. A recent collaboration has further strengthened that partnership, through common interest in Beaumont itself. Together, four school districts, Beaumont's Art Museum and the Heritage Society have succeeded in alerting eighth graders in public, private and parochial schools to their city's architectural heritage—its planning, landmarks, architectural mistakes and problems unique to "Beaumont, U.S.A."

During the 1979-80 academic year, the four school districts initiated an arts-in-general education program titled Arts Related Curriculum (ARC). Schools and arts organizations contributed funds, programs and advisory personnel. Jan Krulick, Curator of Education for the Beaumont Art Museum commented, "The Museum and the Heritage Society decided to make a joint contribution of the program. The schools were looking for something for the junior high level that would use the arts in some curriculum area. Our program fit the bill exactly. Using architecture as a fine art and historic preservation as a base, we approach American history in the manner that all arts-in-education programs are endorsing. It really was not a new thing for the school system to go to the museums and vice versa. Museum staff have worked very closely with the school administrators for years now. It was actually the Art Museum that spearheaded the arts-in-education program anyway, so naturally their programs which always followed that philosophy would be the beginning of the new ARC program. The schools and arts organizations members work very closely. This will continue.

"The school support has come in the form of buses, some supplies and teacher released time for monthly meetings. This will be repeated for 1980-81. For the program to continue in the future, we will be working with six different teachers at four schools, but we hope that eventually the program will become a part of every eighth grade history and art curriculum. Math and English teachers have also expressed interest."

The seven-month program revolves around the *Beaumont, U.S.A. Handbook*, a new text and workbook written by Krulick and the Heritage Society staff. Each of the book's five chapters corresponds with units covered each month by docents from the art museum and heritage society. Initial plans scheduled docents in classrooms only once a month, but, according to Krulick, most went in a good deal more often and also spent extra time with the teachers in planning classroom lessons and special trips. Major themes covered during the year are the built environment and architecture as a fine art, architectural styles, changes in neighborhoods and downtown areas, and historic preservation. All classes work closely with an architect-in-residence. As final projects, one class designed, priced and constructed a deck and courtyard for their school, another measured and photographed an endangered house.

Doris Halliday is one of the participating teachers. Her comments reflect a user's insights about the individual victories of "Beaumont, U.S.A."

"What are the keys to the success of this program? The voluntary aspect of teacher participation is fundamental. And teacher interest is important. Who wouldn't like to find a program that turns kids on? A student repeating the eighth grade began seeking help from his mathematics teacher when he was asked to measure the perimeter of the historic house the class documented for the National Register of Historic Places. Fractions suddenly made sense to him! He replaced the previous 'F' in math with a 'B' and became a good history student.

"At the beginning of the school year, a student who hopes to be an architect came by my classroom three times asking to be placed in the class. Although he could not function academically with the others, he visits on the days designated for architecture. He may never become an architect, but perhaps a draftsman. Who knows? He may improve his reading level with this special interest.

"Time is essential too. Our school district provided released time with in-service credit for several all-day workshops conducted by the museum educator and the architect-in-residence, during which we solved the problems through the same processes that students would use later. The museum staff, architect, teachers, and Heritage Society volunteers met monthly for two hours to share ideas, plan activities, and evaluate our program.

"Expansion and maintenance depend upon enthusiastic leaders, teachers and volunteers. Publicize your program in district curriculum newsletters, local newspapers, television and magazines. Bulletin boards located in school halls displaying architectural activities attract attention from students and visitors. Those who have studied architecture with history will spread the word.

"At the end of the year, students expressed their opinion about the architectural program saying, "We would like to continue it all through high school keeping the same class members.' "

"I maintain working relationships between my museum and area schools by providing quality experiences for students. Teachers are generally better consumers than we give them credit for. They will quickly abandon insubstantial, flash or gimmick programs."

Robert Sullivan, Rochester Museum, Rochester, New York

"I find that the way to establish a cooperative relationship with teachers and schools is to write a letter, with a follow-up phone call to the central school administration. Make inquiries for names of teachers who would be interested in broadening experiences for their students. Contact the teachers suggested and invite them to discuss your program. Don't offer teachers detailed guides and programs involving extra preparation. Generally speaking, teachers do not want to increase their burdens, although they will cooperate, especially if they are preliminary planers with you. Involve them in constructing your program."

Joan Mann Friedman, Emily Lowe Gallery, Hempstead, Long Island

"Collaborative Effort Among Museums for Schools," San Francisco, California

A collaboration among museums grew out of a meeting between cultural organizations and school officials. *Museum News* for November/December 1980 reports that in " . . . 1977, representatives of sixteen cultural institutions in the San Francisco Bay area were invited to meet with members of the school district staff and school curriculum specialist to discuss what these institutions could offer schools. A concern for integrating museum experiences into the curriculum and a desire to complement rather than compete with each others' programs led four of the original sixteen institutions to form Museums Affiliated with Public Schools (MAPS). The San Francisco Museum of Modern Art, the M.H. deYoung Memorial Museum, the Mexican Museum and the National Maritime Museum have, for the past two and a half years, worked with the San Francisco Unified School District to provide social studies curriculum material. From this collaboration, the 'Treasures of California' was developed as a teaching concept broad enough to include the diverse collections of the four institutions. Last year, 250 fourth graders visited each of the four institutions at least once, and now other institutions are being encouraged to join with the original four. MAPS hopes to find funding that would enable them to hire more people to develop additional curriculum modules for schools."

Marie Mathios is a veteran teacher whose nineteen years of teaching enables her to make judgments from a broad base of experience. She and her class of gifted fourth and fifth grade students were enthusiastic participants in "Treasures of California."

"We began by examining Aztec artifacts in class loaned by the Mexican Museum. We discussed their significance, did further research, arranged the

artifacts in a museum-like display, and invited other classes which were studying that period to a student-docent tour of our mini-museum. We also participated in related art experiences. Our visit to the Mexican Museum transported us back to the times of the Aztecs. We then walked through the museum viewing and discussing the art objects, coming forward from history to the present time.

"Another 'Treasures' component was a live-in experience aboard the *C.A. Thayer*, a lumber schooner docked at the San Francisco Maritime State Historic Park. In preparation I attended a teacher workshop. In class, our thoughts turned to the sea. My class became a fleet of ships and I their admiral. Each group elected ship's officers, chose a flag designed by classmates, chose a ship's name, erected bowsprits and masts. All of this, of course, with much research! We also embarked upon a literature unit and I read *Two Years Before the Mast* to the class. The children developed a bibliography of poetry, factual and fictional books. They read, read, read! We developed dictionaries of ship's terminology and vocabulary. We labeled appropriate areas of our room—bow, stern, galley, portside, starboard—and we used this terminology in our daily conversation. We researched sea chanties and created new ones based on old tunes.

"Our pre-visit aboard the *C.A. Thayer* happened to be on a wonderfully stormy day, giving the realistic feeling of what it must have been like to be aboard the ship at sea. The ship was rocking with water dripping down from the deck into the forecastle. We saw a film of the ship's last voyage, and brought back to class a sea chest of materials to help us prepare for our living experience. Crew designations were assigned—line handlers, sail makers, galley crew, navigators. A Maritime Museum park ranger visited us in school. He would be our ship's master on board.

"Finally the day came. With great expectation, we signed aboard the Thayer as crew members. It was a beautifully clear, calm day. We gleefully experienced some of the frustrations early sailors must have experienced aboard these ships. The galley crew hassled with a balking wood-burning stove. The cramped quarters in the galley resulted in a few potato peelings in the stew. The line handlers exerted real effort in setting sail and in maintaining their balance while trying to throw the thick, heavy line to a real dock. As the day ebbed, it began to rain. It was a fantastic day ending with the singing of sea chanties. The children agreed it was the *best* day they *ever* had!

"I have always been interested in the interdisciplinary approach to learning and the use of related resources. The depth offered by sequencing museum experiences, one experience building on the next and based on the California history theme, helped make history come alive for us."

Diane Frankel, then a museum educator at a MAPS-member institution and instrumental in the collaborative effort, finds it mutually stimulating to share ideas with her museum education colleagues—and that the resulting products benefit their in-school colleagues as well. From her experience with collaborative efforts, she offers the following advice: "I think that it is very important to set objectives for your program, but to be flexible enough to incorporate good ideas when they are introduced. I see it as an organic process in which you gather together people who have similar concerns and explore the problem together creatively. Something much more exciting usually results.

"Once you have decided what needs to be done, plunge in, involving people in key places who will help the project happen. It is very important that one person be responsible for setting the meetings, the deadlines and keeping people on target.

"Finally, if you intend to produce written material you should have one person who will edit the work. This is really essential! Last but not least, even if your group size diminishes, finish the project. Once you have the product, other institutions will be encouraged to participate in the next phase and this will rejuvenate the group for progress."

"Needs Assessed and Addressed," Wilmington, Delaware

"The 'Discovery Tours' at the Delaware Art Museum grew out of our efforts to respond to the needs of area schools. Before we set any plans in motion, we conducted a needs assessment survey of targeted public schools. Our 'Discovery Tours' program developed from that articulated need. We at the museum had a sincere interest in reaching student groups, elementary and secondary, and in establishing a secure collaborative effort with the schools. Now a few years later, we still encourage schools to approach us with their specific needs, theme ideas and areas of concentration. The most important aspect of a program is that it be flexible and developed cooperatively with teachers."

Bonnie Levinson, Assistant Curator of Education at the museum adds, "Our 'Discovery Tours' program was developed after surveying, experiencing and evaluating many other school-museum programs. We attempted to combine elements appropriate to our museum and our audience. When planning, I consulted with curriculum specialists from reading, art and music to social studies and English. I visited teachers in their schools. I called specific teachers at school and at home and met many art teachers at a wine and cheese gathering at the museum. I maintained these relationships by constantly keeping in touch—by phone and in person—and by staying flexible."

Levinson's resulting "Discovery Tours" incorporate perception games, inquiry questions and drama to develop visual perception in students—and have changed the perceptions of at least one teacher.

Kay Leigh teaches academically gifted students in New Castle County schools. Because of the attentiveness of the education staff of the Delaware Art Museum, her perception of a museum has been radically altered. Leigh writes: "As a teacher I've often asked myself, 'What is a museum?' In the past, I thought of museums as being completely isolated from my daily classroom existence. Museums always appeared to be superficial, upper class bodies of knowledge to be explored as an amusing last resort.

"Is a museum merely a space to be experienced as a rapid blur of objects and color that overload the senses and leave one with museum fatigue? Is the museum just a one-day excursion trip to escape our classroom environment? Would it be fair to expect anything more?

"I wondered if a museum could address the specific needs of my students and other educators. Would the museum's education staff be supportive of including the needs of school teachers in their planning?

"During an in-service workshop at the Delaware Art Museum, in 1978, Bonnie shared with us the 'Discovery Tours' she had developed for use with the elementary school students. We explored the galleries just as the children would—using drama, poetry and humor. I began to see the flexibility of using the art museum as a resource for many subject areas. 'Discovery Tours' encouraged school educators to develop units cooperatively with museum educators.

"Just last summer, I had another opportunity to explore the museum's offerings. Teachers of academically gifted and talented youth met with the education staff to consider jointly how to use the museum as a resource for our students. As a result of the workshop, a fellow teacher and I laid our plans to develop a participatory art unit that would be more than the one-shot museum visit. From there, I became an active member of an advisory committee for a new exhibition and gallery for children at the museum.

"I have found what other educators must find—that the museum is a viable educational resource. If we want the museum to be supportive and responsive to the education community, we must make the effort to communicate our specific needs. More cooperation between schools and museums must be generated. If teachers become actively involved they will relate to the museum differently. They will not fall prey to the notion of the museum as a treasurehouse of untouchables, but as a multifaceted institution filled with life."

"The most important thing is your homework: find out what teachers are already doing, what their needs are (my observation is that museum educators too often go out and tell teachers what to do, especially those museum educators who have never spent a day in the classroom), and develop materials and programs which will be beneficial. You must attend educators' meetings! Many teachers are doing excellent things and we can benefit from their models."

Marie Hewett, Margaret Woodbury Strong Museum, Rochester, New York

***"Teachers Spark Artifact Study Project,"* Marla K. Shoemaker, Museum Teacher, Philadelphia Museum of Art, Philadelphia, Pennsylvania**

In the summer of 1978, two teachers from Upper Darby School District came to speak with members of the teaching staff at the Philadelphia Museum of Art. That spring they had participated with their students in a museum lesson, "Styles of Living in Colonial America," and wanted their students to become even more involved in studying artifacts. The staff decided to take the opportunity to plan a more extended program for artifact study. After initial meetings with Patterson B. Williams, Supervisor of School Programs at the museum, the two teachers and I began to plan and carry out the project.

The Upper Darby Artifact Study Project involved five components:

- Teacher in-service training day
- Four kits of museum objects and reproductions for use in the classroom before the museum visit
- Museum teacher-led study session at the museum in the Curiosity Shop, an area where students actually handle early American objects
- Independent artifact study session in the museum in which students worked in small groups with parents
- Follow-up evaluation of the program

All artifacts studied were from the museum's American collections. The two museum study sessions took place in one day so that students actually visited the museum once, for approximately three-and-one-half hours.

The teacher in-service day had three main objectives: to decide what themes and concepts would be dealt with in the classroom kits and museum visit; to take care of all the scheduling of the use of kits and the museum visit and to decide what role classroom teachers and the museum teacher would play in the planning of each; and to introduce the teachers, particularly those who had never brought students to the museum before, to productive and interesting methods for looking at artifacts. Six teachers from Upper Darby participated in this day-long session held at the art museum. The Upper Darby School District provided substitutes for each of the teachers in order that they might participate in this day. Although this much school district support is unusual, the teachers seemed to feel that many school districts had money set aside for just such purposes. It simply takes a strongly determined teacher to make them use the money. Three of the teachers who participated in this day were fourth grade teachers, two were fifth grade teachers, and one was an art teacher.

The fourth grade American history curriculum in the Upper Darby Schools focuses on Native Americans through explorers in the New World and up to colonial America. The fifth grade begins with the beginning of the nineteenth century and continues up through the Industrial Revolution.

Each of the four classroom kits of artifacts dealt with a separate concept. The concepts were chosen in part because they were fruitful ways of interpreting artifacts and because they could fit into the fourth and fifth grade curriculum. In addition to its conceptual content, each kit was designed to teach students how to handle artifacts and how to think about them. The first set of activities in each kit involved identifying exercises of looking and holding, writing words and drawing.

Each kit contained the same types of items: artifacts, both original and reproduction, and descriptive cards. A brief list of activity ideas accompanied each kit. Lastly, the kits included a teacher's instruction sheet on care and handling of the objects. All of the objects in the kit had been previously purchased by the Division of Education, none were accessioned museum objects. By providing students with an opportunity to study objects in their classroom, we hoped students would be more familiar with how to look at objects when they came to the museum.

The four kits were prepared by the museum staff and then turned over to one of the school teachers. This person was then responsible for making

sure that all students were able to use the kits. Since the total number of participating teachers was small, this informal arrangement worked out well. If however the number of teachers increased, a more formal lending system would have to be arranged.

As mentioned previously, each class spent a school day in the museum, arriving at 10:00 a.m. and departing at 1:30 p.m. During this time students participated in two museum lessons, a museum teacher-led lesson on looking at artifacts in the Curiosity Shop, and an independent project on looking at American furniture in the museum's American wing. The activities in the two lessons complemented one another, each one focused on helping students explore how artifacts can tell us about the culture of which they were a part. Since the fourth and fifth grade curricula were different, the lessons for each grade level were slightly different.

When each of the four participating schools visited the museum, they brought two classes of thirty to thirty-five students. Each class had both lessons. At 10:00 a.m., one class was in the Curiosity Shop and the other class was doing independent furniture study in the galleries. After lunch the two classes switched places. I led the Curiosity Shop lesson. For the independent furniture study lesson, students worked in small groups of five or six students accompanied by a parent or teacher supervisor. Information for the parents and teachers was mailed to each teacher one week before the museum visit was scheduled. By having students work in small groups with a parent, we can also begin to educate the parents in productive ways of thinking about museum objects. By the time the group arrived, parents and supervisors felt relatively comfortable about their role and, once taken to the American wing, worked well with the students.

The Curiosity Shop was a special exhibition sponsored by the Division of Education. In the space, students could handle American artifacts past and present under the supervision of a museum teacher. Four activities designed for the Upper Darby Project led students beyond simple identification of the objects to an attempt to understand or interpret the significance of the object. (Because of the focus of this report I will not go into a detailed description of either the Curiosity Shop or the lesson activities conducted there. However, this information is available to any interested people. Also available are copies of all the worksheets and information sheets which we prepared for the students' independent furniture study project in our American galleries.)

The final aspect of the Upper Darby Artifact Study Project was its evaluation. Since the number of teachers participating in the project was small (six), no attempt at a statistical evaluation was made. Nevertheless, three forms of informal evaluation were conducted, each of which revealed meaningful information about the successes and shortcomings of this program.

The first evaluation was accomplished by simply talking to the teachers and parent supervisors throughout the day and at the end of the day about their feelings toward the day's activities. The museum teachers questioned these people particularly about how the logistics of the day were progressing and how well the activities fit into the school curricula. Parents seemed, on the whole, very pleased with the day. They felt quite confident about their role and commented particularly on how helpful it was to have received the information in advance. The teachers seemed pleased with the ac-

tivities' appropriateness to their individual classroom curricula. All teachers were pleased with the level of enthusiasm which the artifact study activities generated in their students.

The second form of evaluation was a mailing to teachers which asked them to fill out an evaluation form on the museum kits and visit. The final form of evaluation was directed at the students who participated in the program. At least one month after students had visited the museum, they were asked to take a memory quiz to determine how much they remembered from the museum visit. Students were given four tasks in the memory test: 1) Describe using words and pictures one of the pieces of furniture you studied at the museum; 2) Write down one thing you learned about early America while you were at the museum; 3) List three things you remember about your day at the museum; and 4) List three things you remember about the kits. We have been generally pleased with the results of self-evaluation.

The second year of the program focused on introducing other teachers in the Upper Darby School District to the concept of artifact study. At each elementary school in the district, we conducted one-hour in-service workshops. We also participated in a day-long district-wide in-service day in which approximately 120 teachers joined us. We were paid a modest amount by the school district out of their allotted in-service budget.

In the second year, we changed the kits according to some of the suggestions from the previous years teachers' evaluations. Only three kits were prepared, but each had many more resources for information included in them. Approximately fourteen classes at both the elementary and secondary level used these kits. We lent them to the district for the year so that teachers might experiment with how best to use them.

Ten classes visited the museum in the second year. All these classes saw the kits at some time during the year, although not always before they visited the museum. Essentially, we treated each component of the program separately in the second year. We felt that by allowing maximum flexibility we would encourage maximum participation in museum-related studies.

In our second year we disseminated the idea of artifact study throughout the district on both the teacher and the supervisory level; established stronger contacts with the administrators; continued to see a growing number of classes from the district visit the museum.

In the summer of 1980, the Upper Darby School Board passed a budget which included in a separate line bus funds so that every fifth grade student from the district would visit the museum twice in the year. We are redesigning our program somewhat to accommodate this new situation. Students visit once in the fall and once in the spring. The fall visit focuses on introducing students to looking at art and to art museums since most of them have never visited an art museum. The spring visit will focus on studying American artifacts in connection with their social studies curriculum. Each student will see one of the traveling kits between his or her two museum visits.

The rather sudden expansion of this program has caused some problems, particularly in the area of teacher preparedness. One of the reasons for the great success of the program in the first year was the high level of teacher contact which we were able to maintain. We are currently meeting with administrators to try to work out specific preparations for teachers so that all of

these new teachers can feel more a part of this program.

Our relationship with the Upper Darby Schools has been an extremely successful one. Both the school district and the museum have benefitted from the association. Most especially, the students have benefitted greatly in having a new resource for learning open up to them. One problem has arisen because of the great success of the program. We are a large metropolitan museum with a wide-ranging population to serve. Because so many students from Upper Darby are now coming to the museum, some other groups can not be scheduled. How much time and effort should a museum like the Philadelphia Museum of Art devote to one school district? What is the museum's proper audience? Should it be defined by a political boundary? These are the questions we must address as we prepare for Year Four of the Upper Darby Artifact Study Project.

"A Closer Look Yields Closer Ties," Washington, D.C.

For many years, the National Zoological Park, a Smithsonian Institution facility, has been serving metropolitan Washington, D.C. with guided tours for elementary school classes. Although those tours were successful in reaching numbers of school children, the Education Department staff was not totally satisfied. Visits were isolated experiences. Judy White, Chief of Education, reflects: "Usually teachers were not involved and there was little or no follow-up in the classroom. Sometimes the visit to the Zoo was merely a field trip and not a way to extend classroom study. Although we had a policy of tailoring Zoo tours to meet individual classroom needs, teachers seldom took up our offer. Most were just too busy. We decided to take the initiative and develop a new Zoo program. It would be one designed to answer teachers' classroom needs, and satisfy our own desires for a program of some depth." In Fall 1977, a multiple-visit program, "Zoo Animals: A Closer Look," was introduced.

Planning began with the interviewing of teachers and science curriculum staffs. Judy Herman, an education specialist at the zoo, helped develop the program. "We asked teachers, 'What kinds of support activities would you like the Zoo to offer you?' Repeatedly we heard the same requests and these were the ones around which we would base our program:

- Reinforce skills, especially the skills of observing, classifying, and recording data, that are being taught in the classroom.
- Provide opportunities for experiential learning.
- Provide in-depth, multi-visit programs for schools.
- Reach out to the schools by bringing programs to the classroom.
- Provide materials and lessons for teachers to use in the school classroom as well as in the Zoo.
- Provide in-service learning opportunities for teachers to help them in their teaching of science.
- Help teachers solve their transportation problems so their classes can attend these programs."

More aware of the teachers' stated needs and expectations, the zoo edu-

cators began to devise a program that could satisfy those needs and their own hopes as well. For the pilot phase, the audience was limited to those District of Columbia Public Schools located near the zoo. Schools in that vicinity have varied socio-economic make-ups (including one bilingual school) and reflect in microcosm the schools citywide. School science curriculum staff recommended that the program focus on fourth grade. Zoo policy forbids removal of animals to schools, so the program included visits to the zoo. Transportation would be an important consideration for a multiple visit program.

Working within these constraints, the education staff continued planning. "A key characteristic of the program would be skills development. Activities would emphasize observing, classifying and recording data. Teacher training would be another important component, accomplished through workshops and having the teachers actively participate along with the children."

Additional activities and materials would be provided so teachers could carry out part of the program in the classroom in the intervals between zoo visits. Evaluation was also an important component for which to plan. The curriculum, materials and activities would be tested, evaluated and refined. Reactions of teachers and guides would be monitored through interviews.

Herman recalls the early stages of development and modification. "Months before the program started, the curriculum was developed. It received input and final okay from Zoo curators in the animal department. The prototype lessons were tried out on summer camp groups near the Zoo. We settled on a six-lesson program; the first at the school and the remaining five at the Zoo. The tested lessons and additional activities were carefully written up and assembled into a handbook that was to become an invaluable aid for participating teachers and Zoo guides. Principals in nine elementary schools were contacted and teachers selected to participate in the pilot phase. During the summer, they attended workshops in which they discussed the logistics of the program. They role-played individual lessons. Volunteers were recruited from the regular guide force and prepared to participate in the pilot program for Fall 1977."

Both museum and school educators had raised the question of transportation. For a "Closer Look," a government surplus bus was obtained, renovated and christened the Zoo Express.

"Zoo Animals: A Closer Look" is introduced in the school classroom. This introduction is followed by visits to the zoo one morning a week for five consecutive weeks. Between visits the teacher is expected to carry out activities in the school classroom to complement what the children have done at the zoo. Zoo visits include two to the Reptile and Amphibian House, a visit to the bird area, a tour of the mammal exhibits, and a visit to the Monkey House. Lessons one through four focus on looking closely at animals, observing their physical features and habitat. The fifth lesson is planned to give children the opportunity to observe animals' behavior. A short film about baboons introduces observation skills the class will try out at the Monkey House. One month elapses and the sixth visit is scheduled. Each child brings a drawing and questions about his or her favorite zoo animal. Each group visits those animals its members have chosen so that each child can teach the others about his or her choice.

Evaluation is an important component that was brought into "Closer Look" early on in the program's planning. With the advice of a psychologist, the education staff devised a number of ways to informally monitor the program and assess its effects in three key areas—usefulness to teachers in their teaching and in their understanding of animals, improving children's observation skills, and introducing volunteer guides to new ways of teaching about zoo animals. The staff found that direct observation of classes and personal interviews with teachers and guides following each class visit were two particularly successful methods.

Herman recalls, "By the end of the first session in October 1977, three schools had completed the program, evaluations were considered, and some materials and activities were revised for use with the schools the following session. By the third session in the spring of 1978, we were satisfied that the program worked. It had been tried successfully with a number of different teachers and children."

Judy White talks about the second and third year. "During the second year of the program, teachers from the first year were invited to participate again since our staff felt that they had not been given enough background information. (Originally we only scheduled two half-day workshops for which teachers did not get in-service credit. Now they attend a three-day workshop in August and receive one in-service credit after their students complete the program.) Most of these teachers continued with the program. In the third year, we were not able to allow any teacher to continue for a second or third year and the teachers were disappointed. We did offer a special summer workshop for those teachers. To maintain our working relationship with the schools, we still keep in touch with Mary Harbeck, our science team contact for the District Schools. Each year we accept new teachers into the program. We recruit by sending letters to teachers who have contacted us the previous year as well as to principals of every elementary school in the District. We keep contact with participating teachers by mail and phone."

And for others planning a museum-school collaboration, she suggests: "Make contact with school officials and teachers so you can find out their needs and 'druthers.' Keep in touch with principals, teachers and administrators. Let them know you have the best interests of the children in mind. We write thank you notes to principals and do not hesitate to call if we have a problem, like what to do about a school strike."

Both White and Herman agree, "We see ways to extend the program in a number of new directions. These include workshops for additional teachers not included in the program; developing loan materials for general school use; and incorporating some of the 'Zoo Animal' activities into the Zoo's regular guided tours.

"We see 'Zoo Animal' as a particularly successful pilot venture. We think it has satisfied our original goal to establish an in-depth program that would meet teachers' needs. It has resulted in lessons that work with a variety of teachers and students. It has generated numerous educational activities and materials with multiple uses, and it has produced in all of us, Zoo staff and volunteers, a new enthusiasm for our school programs."

"With the schools, we developed a nine-week course, given in schools, on school time. The fifth and sixth graders then present historical and architectural walking tours of Georgetown to visiting school groups. In planning our student-guide program, I went directly to the teachers. In addition to being Project Director, I am a teacher, but do not teach at our target grade level. Working with teachers, we developed the course and presented it to the administration. I feel having staff directly involved and maintaining constant contact is essential; it was a key component in the development of our museum-school collaboration! Find a school staff member, even if only one, who is committed to the program."

Cynthia Neely, Georgetown Society, Inc., Georgetown, Colorado

"School Initiates Object-Learning Project," Shaker Heights, Ohio

A spacious and well-lighted classroom in Shaker Heights, Ohio has undergone some changes not unlike the metamorphosis of several museum rooms across the country. In consultation with area museum staff and with funding from a local foundation, the Shaker Heights School System initiated creation of the Discovery Room at its Moreland Elementary School which opened in the fall of 1980.

For several years, Shaker schools actively participated in education programs at Cleveland museums, some as part of a voluntary desegregation effort. As a direct outgrowth of those collaborations, and because project director Betty Hess is an ardent supporter of hands-on learning and museums, plans were set in motion in August 1979 to acquire money to convert a school classroom to a museum-like setting. Unlike so many other museum-initiated outreach programs, the Moreland School project was not the result of major transportation problems. Rather it was a natural extension of the school's philosophy.

Moreland School's teachers provide time and space for self-directed learning centers in their classrooms. Students are encouraged to work at cozy study corners, sketching from a still life or examining closely natural science objects that reinforce their larger classroom study. Further, Moreland School was chosen because the school population had shifted sufficiently to free up a classroom, although plans always allowed for complete return of the space to traditional classroom use if necessary. In fact, one primary aim of the Discovery Room is that it will act as a magnet attracting additional students.

When Hess approached the Education Staff of the Western Reserve Historical Society in Cleveland, she had the necessary support of her school administration and a general notion of what she wanted as an end product. She lacked wide exposure to design options for the learning space, access to the objects and possible strategies to engage the students. In a series of meetings and telephone conversations, the museum staff shared with Hess its know-

ledge of "discovery room" alternatives in museums, possible teaching strategies, existing museum programs that could be linked to the self-directed student learning in the school's discovery room, and sources of reproduction objects. The museum staff helped Hess plan a trip to other museums in the northeast to acquaint her with existing rooms and participatory museums.

The Historical Society was delighted to have been approached by an obviously enthusiastic school system that shared an interest in learning from objects. Still the Discovery Room would be a major undertaking, had no known precedent in a school and was not yet funded. The curatorial anxieties about the objects' safety, and the educational concerns of appropriate implementation of teaching strategies without a museum educator's mediation were not allayed, but were acknowledged.

Once the school's idea had been introduced and made more realistic to the Historical Society's expectations, Hess approached the Museum of Natural History as a sister museum for the Discovery Room project. Three-way conversations began. The Shaker School System prepared a grant proposal for the M.H. Jennings Foundation, a Cleveland-based group whose special interest is in quality education for secular elementary and secondary schools. Moreland School had received prior funding from the foundation and so Moreland staff couched this new two-year Discovery Room proposal as a reinforcement of that previous program assistance. The school district pointed out that its pilot effort might be replicated at other schools. For architectural consultation and actual remodeling costs, the school system sought and received money from Ohio's funds for voluntary desegregation.

With financial support secured, money apportioned to the two participating museums, and an architectural consultant located, Hess and the museum personnel set about their work. Space within the room was assigned so the two museums and the school knew just how much to plan. The individual museums reviewed curricula and met with classroom teachers to identify themes and areas in which programs at the museums and the use of objects at the school would reinforce the curriculum and best help the teachers. As a result of the school and museum educator meetings, some logistical problems were raised. Who would supervise the Discovery Room when students were not accompanied by a classroom teacher? What accommodations would be made for use of the room by students other than the intended third through fifth graders, in the case of the Historical Society? How would the materials and use of the room be evaluated? What training would the teachers need? Which institution has ownership of the instructional materials? These and other questions were raised, discussed and settled.

The Discovery Room provides more to students than additional opportunities for frequent and independent contact with history and science-related objects, and tangentially the two museums. It also encourages social skills and piques the students' interest in a number of areas. Karen Grochau, Chief Curator of Education at the Western Reserve Historical Society, has this observation to add:

"It has been exciting to see a school recognize and actively support the importance of socialization skills and affective learning as part of its official program. So often the pressures of time and the everpresent 'curricula' focus

attention on the mastery of academic subject matter alone that some of the life skills and humanistic elements of the educational process fall by the wayside."

Project Earth Study
North Olmsted, Ohio

From a small start-up grant in 1976, Alan Falquet, a science teacher at North Olmsted Junior High in North Olmsted, Ohio, has amassed over $50,000 in grant support for his Project Earth Study, a program which introduces junior high, senior high and college students to local Ohio prehistory. Students work during the summer months and the school year for credit in various fields of science combined in a single field and laboratory offering.

It all began in 1970 when Falquet learned of a mastodon skeleton in a nearby town; it had been discovered in 1951 and only partially removed by the Cleveland Museum of Natural History. The museum gave Falquet permission to continue the dig.

When the site was surveyed and excavated by his eighth grade students in 1975, skeletal bones and evidence of Indian habitation were uncovered. At this point, Falquet eliminated the museum middlemen. Rather than releasing the archeological remains to museum or area universities for processing, Falquet designed a laboratory course to teach his students to identify, catalogue and preserve the artifacts.

In *Pro Excellentia*, Fall 1979, a publication of the M.H. Jennings Foundation, one of Project Earth's earliest funders, Falquet states, "The goal of our program is to prove to students that prehistory is alive . . . local archeologists have done their best to make it boring. What we're trying to do is get an appreciation for our state. We're not trying to produce archeologists." He and his students are writing an archeology workbook too.

What are the implications for museum education and museum-school collaboration with apparent funding and content success stories like this?

"School-based Museum Highlights Local History," Louisville, Kentucky

An elementary school, Roosevelt Community School of Louisville, Kentucky, turned two school rooms into a permanent museum: the Portland Museum. Organized to educate children and community members about Portland, an historically important urban neighborhood of Louisville, the museum was founded in 1978 with an Education Program grant from the National Endowment for the Humanities. Families have lived in that area for generations and community spirit is strong. The school, like the neighborhood, was racially balanced. Roosevelt staff had been working intimately with the community for a decade prior to the arrival of the Portland Museum. The museum was seen as a community center and a focal point for neighborhood pride and cultural activities. Museum staff developed services to fulfill real and specific needs with practical applications for the revitalization of a neglected inner city neighborhood.

For instance, the staff completed one volume from a planned series of three on local history for children; it was used in the school. Exhibitions highlighted school curricula and followed historical themes; documentation of the local history was nurtured and collections development focused on the locale; workshops were held for teachers, community residents and children. According to Interim Director Nathalie Andrews, "The museum penetrated the school corridors and neighborhood streets. It recognized the important role children have in passing information and ideas to their elders. One of our strengths is that daily we send museum-trained young people into the households of Portland."

When asked in a telephone interview why the programs of the museum have had such success, Andrews said, "We developed activities and programs early on with freedom from the school administration and encouragement from the staff and community. And process is important too. Every step in developing our museum is accessible to our audience. We are transparent, flexible and innovative, rooted in basic traditional museum concepts."

For all of its community support, however, the school-based Portland Museum is weathering some turbulent times. In October 1980, the Roosevelt Community School, Inc., two aldermen and individual parents were involved in a court action seeking to overturn a decision of the Jefferson County School Board to close the school, a move some viewed as political. The community lost the court action; the school was closed and the students are now bused to a facility which is mostly inaccessible to community members by public transportation. The museum was not moved. It has been relocated temporarily in a portable unit outside the Roosevelt School and shares the facility with several other community service groups. It is short on space and its important source of support, the school children, has been removed. In December 1980, negotiations were underway to relocate the museum to another racially balanced, open classroom school.

"As the liaison person between our school and museums, I find out what the teacher wants, then I look for the museum program that seems appropriate. If there is not one offered, we, the teacher and I, devise one. In our field education program, every class goes out once a week—or docents come to the classroom. To maintain a working relationship with museums, I keep talking to museum people as much as I can, using people I know. I try to get teachers to museum workshops and classes. And it always helps to have classroom teachers talk to docents before a tour."

Ida Prosky, Capitol Hill Day School, Washington, D.C.

Hillside Mini Museum
Montclair, New Jersey

Developed as an alternative art class for two elementary public schools, the Mini Museum Project began in 1977 in space allotted by the participating schools, Hillside, grades three through five, and Nishuane, pre-kindergarten through grade two. Project Director Nancy Smith, an art teacher with the schools, continued on salary from the school system, but devoted her time to the Mini Museum Project. Students took part in all aspects of preparation for presentation of student art work and crafts—exhibition design, audio-visual aids, interpretation, security, publicity.

The Mini Museum's collection included reproductions for loan to classrooms. Students prepared biographies and study questions to accompany the loans. The school facilities also provided information about special events at the nearby Montclair Art Museum and efforts were taken to coordinate programs with the art museum.

One Hillside Mini Museum installation, "The Painting of Robert Slutzky," consisted of reproductions of works from a catalogue of the works of Slutzky, whose work was concurrently on exhibit at the Montclair Art Museum. After a visit and instruction at the museum's exhibition of the original works, students acted as docents for visitors to the Mini Museum exhibit of reproductions. Some students were invited to be guest curators at another exhibit at the art museum.

"Two Surveys of Teacher Audiences," Edmonton, Alberta, Canada and Sturbridge, Massachusetts

The Extension Services staff of the Provincial Museum of Alberta decided to conduct a survey of elementary school teachers in the province to learn more about the considerations which encourage or inhibit trips to museums. According to Margaret McInall of the Provincial Museum, "The survey was undertaken because of dropping school attendance at the Museum over a three-year period. The museum staff wished to learn how much of this change related to transportation costs and budget restrictions and how much was related to programs and their relevance to classroom work."

A questionnaire was mailed to a random sample of teachers in Fall 1977. Six conclusions are especially interesting:

- Although teacher awareness of museum resources may be limited, their general attitude towards museum field trips is positive.
- Factors which limit museum use are primarily related to distance and transportation, rather than quality of exhibits or information provided by museum staff. Teachers were more likely to visit a museum close to their school, preferably within ten miles.
- Older, more experienced teachers tended to make more museum trips than their younger colleagues.
- A large majority of teachers affirmed that they usually visited museums for personal enjoyment. The questionnaire did not pursue the

factor of teachers who visit museums while on vacation in other areas and compare it with use of museums in the area of residence. From the survey report, "One wonders whether teachers view the museum as a learning resource for themselves, relevant to their preparation of teaching units. . . . There is no support for the hypothesis that those (teachers) using museums for personal enjoyment are more likely to bring classes."

- Many teachers preferred May and June for field trips; and many teachers felt the visit should coincide with classroom study of the topic. "The choice of a spring visit suggests recreational rather than academic goals on the part of many teachers," comments the survey report author.
- When asked for suggestions to improve museum programs, teachers wanted opportunities to involve their students in ". . . something dynamic by observing a demonstration or participating in crafts. . . ." Oddly they showed less enthusiasm for opportunities for students to handle objects or activities when the result was a more narrow focus for the museum visit. "They clearly preferred a more general survey."
- "Non-users showed . . . interest in . . . general improvements to the facilities . . . (and) greatest interest . . . in having exhibits made available in their own community."

Almost two years later and several miles further south in southern Massachusetts, Mary Alexander, an education specialist at the National Archives, Washington, D.C., surveyed secondary school teachers' attitudes toward directed museum visits. "I wanted to learn why some teachers value field study and some do not. I looked for information on the teachers' attitudes toward several elements of museum field trips—museum educators as cooperative planners, the process of organizing the trip, the educational value of museum experiences for students and the nature of learning within the museum setting.

"Although the survey sample was small, the results are heartening to those who wish to serve the high school audience more effectively. It seems that museum educators do not need to convince teachers that museums have educational value for high school students."

However Alexander also concludes that many teachers do not have a clear understanding of museum educators as fellow professonals, are unsure that museum educators are aware of teachers' needs or encourage their visits, and are uncertain about the availability of museum staff resources.

The findings of these two surveys reconfirm many assumptions and point up an apparent need for museum educators to improve their marketing, of themselves and of their work.

Considering Post-Secondary School Audiences

How can the museum serve audiences beyond the high school, students and faculty? What untapped resources are available from post-secondary settings for museums?

***"Challenges for the 1980s: Art Museums and Higher Education,"* Dolo Brooking, Associate Director and Associate Professor, Community Arts Management Program, Sangamon State University, Springfield, Illinois**

Declining enrollments are thrusting many university and college art museums, that have not achieved national status, to the precipice; threatened with extinction, they are charged with arguing to administrators their *raison d'être*. Until recently, most campus museums have had as their mandate servitude to the departments of art or art history, thus restricting relationships to the collegiate population and excluding in-depth connections with other academic departments. Among museums which have had outreach programs, many have confined themselves to strictly art historical approaches to scholarly lectures, tours and catalogs, the latter published primarily for peers nationwide.

As universities and colleges scramble to find funds in an era of shrinking endowments, museums, as so-called academic support organizations, can be easy prey to the pruning knife. Since they neither fulfill nor nurture the institution's primary teaching and research function, any museum that leans exclusively upon the frequently served up public service shibboleth may also discover itself to be irrelevant. Such a state of existence can be as anxiety-provoking as it is creativity-producing. What campus museums need to do is redefine or indeed define for themselves a mission that identifies a scholarly direction.

Thus, a unique opportunity exists for them to emerge from their narrow discipline focus and to merge with the community of scholars that constitutes the academy. A new role awaits university and college museums if

they choose to unleash energies while harnessing the potential for truly being oases of learning—primarily, however, from material culture rather than exclusively from words that illustrate. Presently there are no leading institutions in the United States to which a newly-hatched museum person can turn for the latest research in exhibition design and interpretive or evaluative techniques. There is no single institution that researches and publishes the effectiveness as learning tools of brochures, calendars, handouts and other common paraphernalia of museums.

One looks in vain to discover a single American museum with a publishing record in museum studies. Indeed there is no university museum studies program in the nation that publishes a journal based upon its own research on issues of museology. During the AAM's annual meeting of 1980, held in Boston, some thirty museum professionals, however, gave animated support to the idea for such a journal.

In a new role as experimental centers for learning, university and college museums can function most creatively as leaders for the profession. What in part makes this substantially possible is the collegiality that obtains in the halls of ivy. During my nine years at the University of Kansas, colleagues from other departments relished their own or their students' participation in projects and programs. The expertise and the resources that abound within the university present untilled fields for experimentation utilizing material culture. This enlarged learning potential can produce a fresh image of the campus museum as integral not tangential to higher education.

A museum can also be a major resource for research by other departments in the university. For example, students in theater could compare the training and interpretive role of improvisation with the improvisational uses in the museum. Tours that cross-index music, dance, and art history can be designed by students and faculty from those departments. Both can then be subjected to evaluation by students from educational psychology or human relations for short and long term educational impact. Such a purposeful approach could alter faculty perceptions at museums as solely walls upon which to hang student or faculty work, or as reverential sanctuaries with restorative elixirs, or as comfortable havens for impressing out-of-town guests. Robert Motherwell, the artist, laments that

> a museum is like a university . . . divided into departments. The Museum of Modern Art in New York has a hundred of my works, but the graphics are only exhibited by the graphics department, the drawings by the drawing department . . . and so on. It never occurs to anybody to stick them all in a corner, as here in this studio, where they would become human . . . although a single flower may be beautiful, it is nothing compared to the entire arrangement.[1]

Motherwell would no doubt support Aldous Huxley's admonishment to "beware hardening of the category."

My years as Director of Education at the Spencer Museum of Art, University of Kansas, revealed the broad potential for experimental projects that were interdisciplinary in concept. My first investment in this area was the exhibition, the publication, and the public programs—music, films, and literary events—that were "The Extended Hand." In early stages they were conceived as being exclusively for children. The concept was changed to test

adult receptivity. Because of its very human subject—the hand—and its balanced tension between participation and contemplation, adults as well as children delighted in how the exhibition engaged the senses and heightened awareness of a particular theme. It can be argued that sensory overload is a predominant daily experience and that selecting a single concept can result in coherent rather than fragmented thinking. The umbrella approach to integrated learning drew professors from design, art education, geography, space technology, medical center, economics, and the Museum of Natural History, the latter with its hands-in-nature exhibit. Responses to the exhibition by those attending included such statements as:

- Excellent. I'm glad it was here and that I could make use of it in conjunction with my teaching.
- It was really fascinating. It made art—the experience, the discovery, that draws me to creating. Thank you.
- So God gave life to man, man gives life to his hands.
- It's a marvelous experience—makes you feel like a child again—in wonder of yourself.
- Thought provoking—lets you look at yourself, what your hands are capable of.
- Excellent: Family, participatory art!
- An interesting method of turning people on to life.
- Fantastic—sensual, visual, exciting . . . and all part of the hand.

Perhaps museums could see themselves more as theaters for exploration of the human drama, as stages highlighting objects of our material culture, as reflections of moments frozen in time, as oases where we discover ourselves.

An exhibition of samplers spawned an interdisciplinary program that created a memory piece to capture the intrigues and exaltations of people who were our grandparents. The program entitled "Spoon River Sampler" included piano, voice, and guitar and featured readings from Edgar Lee Masters' *Spoon River Anthology*, and complemented the themes and moods of the samplers—love and marriage, art and artists, nature, humor and life. National Public Radio later broadcast this program nationwide.

Programs which focused on another textile exhibition spun yarns related to fibers and fabrics through ballads, story telling, mime and dance. Planned by a student, these programs bonded the departments of dance, music and theater with the Museum.

The apse of the former Museum provided an appropriate setting for a program celebrating the opening of a visual essay entitled, "A Medieval Madonna and Child: The Symbol of an Age." The centerpiece was the Museum's thirteenth-century sculpture of a *Sedes Sapientiae*, a Madonna and Child, popular in the Middle Ages and thought to have been used in liturgical dramas during the Christmas season. The theater and music departments of the university and a community musical group joined with the Museum to recreate an allusion to the role of the Enthroned Madonna sculptures in a sensory and artistic integration mindful of a distant past.

What infused these programs with special significance was not only their interdisciplinary character but also their humanities orientation. Art museums with their heavy stress upon art historical methods in particular

are frequently devoid of the anima of art that as Hilton Kramer says "clarifies, intensifies, or otherwise enlarges our experience with life."[2] It is precisely this experience that university museums can be most adept at providing to a world that seemingly has forgotten how to communicate. In a world "obsessed by interacting with computers," psychologist Philip G. Zimbardo comments that one has an "impression of watching a generation of clones of Mr. Spock from 'Star Trek.' Human speech is there, intelligence is evident, but the executive command programming does not include feeling or affection."[3]

The secular festival which is in ascendency nationwide may well be the new communal laundry in its attempts to dissolve alienation and celebrate cohesiveness for "festivals are the outward expression of man's common heritage of fear and thanksgiving, joy and devotion."[4] The university museum can be a creative sanctuary for rituals which honor both continuity and change as hedges against the impersonal or artificial relationships that today pass for social interchange.

Provisions for festivals in art museums are as reasonable as craft fairs at history museums. Too frequently, though, festivals in art museums do not use museum objects to investigate the connections among disparate disciplines. The Musing in Museums[5] project, a two-year arts, humanities and science program, created a series of mini-festivals or small theater pieces that juxtaposed seemingly unrelated parts. In one instance, an irreverant but knowledgeable Harlequin puppet introduced a curator who gave a splendid gallery talk on Tilman Riemenschneider's *Madonna and Child* which then led to the retelling of the medieval legend of "Our Lady's Juggler." A mime orchestrated his silent actions to the subtle sounds of percussion instruments. The program, which celebrated the Christmas season, culminated the reign of Polyhymnia, the Muse of Religious Festivity.

A major festival celebrated Calliope, the Muse of Epic. A fourteen-hour reading of the Odyssey provided the link to an entire day of Odyssey-related events, including films, a gallery talk and music. This Muse represents the age-old human search for fulfillment invested with a relish for the quest, for adventure, discovery and challenge. Calliope then would be the appropriate Muse—Patroness of the new mission for university art museums. Traditional habits acquired from the past supply fertile soils from which to produce vigorous new hybrids.

Exhibitions can also express the depth of humanity rather than the limits of aesthetics. The NEH-supported exhibition, "The Tokaido: Adventures on the Road in Old Japan," was designed to provide a performing arts area within the exhibition space as well as an inn, a metaphorical and literal resting place; the pleasures of the inns of Old Japan could be enjoyed via a media presentation. One of the publications that accompanied the show was a guidebook to being a tourist on the road in Old Japan. It assumed a you-are-there perspective instructing you, the potential traveler, on survival tactics, appropriate delights including inns and entertainment, and spectacular vista points from which to write poetry.

The approaches outlined above while not exhaustive suggest how we can learn through analogies to our own experience and through arousal stimulated by unexpected juxtapositions. Both of these are strategic teaching devices that pull us from our myopic ways of viewing reality.

The decade of the 1980s could find university art museums restructured as centers for experimentation in museum techniques, methods of interpretation, and audience development and as conduits for involving the faculty in substantive encounters with art objects. Museums can become humanities-oriented research centers for leading faculty into understanding that art, as the oldest form of recorded history, is a channel through which the plights and joys of men and women are shared. But university art museums must see themselves in leadership roles, publishing the results of their findings, pointing new directions. They must find an alternative to simply emulating what their peers across the country have done, are doing, and continue to do. They must hve the courage to question the unquestioned.

George Evelyn Hutchinson comments in *The Itinerant Ivory Tower* that

> there is an unfortunate tendency to regard university museums only as means of interesting the public in the arts and sciences, rather than as a potential storehouse of facts on which new generalizations can be built. The university should be regarded primarily as a place of *learning*, not as a place of *teaching*.[6] (Emphasis added)

University museums as searchlights, lighthouses can be vital adjuncts to ivory towers.

[1] Janet Baker-Carr and Douglas Schwalbe, *Conflict in the Arts: The Relocation of Authority* (Cambridge, MA: The Institute in Arts Administration, 1976), p. 7.

[2] Hilton Kramer, *What is Art?* (New York: Alfred A. Knopf, 1980), p. 5.

[3] Philip G. Zimbardo, "The Age of Indifference," *Psychology Today*, 14 (August, 1980): pp. 71, 72.

[4] Dorothy Gladys Spicer, *The Book of Festivals* in Olivia Cadaval's *Festivals and the Politics of Culture* (Washington, D.C.: National Center for Urban Ethnic Affairs, 1980), p. 1.

[5] Dolo Brooking, Saralyn Reece Hardy and Maria Lee Pollack, "A Giant Synthesizer: Musing in Museums," *Roundtable Reports*, V. 1, 1980, pp. 6, 13-15.

[6] George Evelyn Hutchinson, *The Itinerant Ivory Tower* (New York: Books for Libraries Press, 1970), p. 146.

"College, Art Museum Pair Up," Philadelphia, Pennsylvania

A collaboration between Delaware County Community College and the Philadelphia Museum of Art came about because the wife of John Cronin, he a professor of history at the college, used the museum with her elementary school students. Cronin's college is in a suburban setting and, except for sports events, the students have little or no contact with nearby Philadelphia. Cronin listened to his wife's enthusiastic telling of her experience with the museum's school programs staff. Although he had little practice with object-centered learning, Cronin sensed students in his course, "Introduc-

tion to Western Civilization," might benefit from exposure to the Philadelphia Museum of Art. Upon reflection, he said, "It was remarkable *not* to use the abundant resources offered by the surrounding museums and historical sites. The traditional way the course was being taught did not take advantage of those riches. The course could have been taught on Pike's Peak."

When he approached the school programs staff at the museum, he was rewarded with their enthusiasm and full support. With their assistance, Cronin prepared a proposal to the college for an experimental program. He points out that it might be easier to sell the administration of a community college on a non-traditional course. The proposal was approved and Cronin was able to devote half-time to the development of the course and materials. "Putting together a program like this is a very slow, time-consuming process. My greatest difficulty in working with museums is my own limitations and lack of imagination. The people at the museum were very supportive and helped me see the possibilities of using objects, especially with the open-ended learning activities."

Margaret Oravetz, Coordinator of College Programs, Division of Education at the Philadelphia Museum of Art, worked with Cronin to produce materials for his college students on medieval culture, a theme for which some museum worksheets already existed.

The pair divided the project into five tasks:determine number of museum activities, determine the focus of already-prepared worksheets, design the required new worksheets, research and compile data to accompany each assignment, physically produce the materials.

Oravetz recalls, "The first and second of these jobs were done in true collaboration, in the galleries and face to face. The number and subject of the worksheets resulted from the strengths of the collections, the nature of the course being taught and time available. We decided on optional introductory printed tours of the whole Museum, a required short exercise in distinguishing Romanesque and Gothic style in architectural fragments, and a choice between a worksheet on the evolution of the Madonna image using sculpture or a worksheet on medieval symbolism using an architectural installation of a carved Romanesque cloister."

The two institutions shared the task of compiling related information. The museum took responsiblity for design of the sheets; the college handled typing, layout and reproduction.

Professor Cronin's revised course on western civilization has not met with resistance from his students. He points out that students may choose to incorporate the museum component; he feels that those students who choose it do like it. But he expects the option will become a requirement the following semester; he foresees the possibility of some student resistance.

Encouraged by his experience working with the staff and collection of the Philadelphia Museum of Art, Professor Cronin has approached other area museum educators, but with less success. Others seem less willing to pick up on his ideas. Because he himself is so new to this kind of teaching, Cronin is uncomfortable pressing further. He concludes, saying, "The people at the art museum shared a number of books with me. But I feel there is a need for a 'how to' guide, one for teachers and museum educators about learning from objects. For programs like mine, one needs specific assistance from museum people to adapt it to local collections."

Cooperative Courses
Seattle, Washington

Seattle's University of Washington has collaborated with two science facilities to provide services to school teachers and university students. The Pacific Science Center and the university sponsor a marine education workshop during the summer to acquaint elementary and secondary teachers with materials, information and resources of the Center. And with the Woodland Park Zoo, the University of Washington inaugurated a cooperative program of education and research in 1975. The university's Department of Psychology offered a course, "Behavioral Studies of Zoo Animals," which involved student research and discussion at the zoo. Sometimes zoo staff suggested project ideas and acted as consultants. That first cooperative course provided the impetus for a second, geared toward the general public and offered as part of the continuing education division of the university.

"Bay State Colleges Use Off-Campus Museums," South Hadley and Worcester, Massachusetts

In central Massachusetts within the last three years, separately two museums have collaborated with their respective area colleges to use the museums' collections for faculty and student learning. Both programs were funded by the National Endowment for the Humanities.

In January 1977, with its three-year grant from NEH, the Worcester Art Museum instituted its College Gallery Program. Faculty from eleven colleges in the Worcester Consortium for Higher Education were invited to put together exhibitions using the museum's collection that complemented their courses. Early participants represented a wide variety of disciplines—English, classics, history, psychology, chemistry, computer science, as well as art history and studio art.

Virginia C. Raguin, assistant professor of fine arts at the College of the Holy Cross is coordinator of the College Gallery Program. In the museum's *Journal*, Volume 1, 1977-78, she describes the mechanics of the program.

"One gallery has been set aside by the Museum to be used solely for College Gallery exhibits. Each show includes twenty to twenty-five works. . . . In conjunction with the exhibits, lectures, films, symposiums, and other educational activities are offered to further develop exhibition themes. Many exhibitors have also conducted tours of their shows or trained their students to do so."

From the comments of one participating professor of English, the chance to incorporate objects into the course of study was as much an education for the faculty as for the students. In the Summer 1981 issue of *Roundtable Reports*, the journal of museum education published by Museum Education Roundtable, Washington, D.C., Michael True of Assumption College in Worcester, considers his two years of participation in the program. He recalls his exhilarating discovery that he could present visually what he had been saying verbally about twentieth century British and American literature. He relates that his undergraduate and graduate students, as

well as the students of other professors, responded favorably to his exhibitions. He reflects on his coming to terms with his attitudes about the current role of museums.

In the earlier mentioned *Journal* article, Ellen R. Berezin, the Curator of Education at the Worcester Art Museum writes of the success of the College Gallery Program. About the cooperative spirit it engendered, she says, "The program's collaboration exists on several different levels, despite the fact that many felt this would be the area of greatest challenge. Curators and professors share expertise. Academics from various institutions and various disciplines pool resources. Faculty, students, Museum staff, Museum members, and the general public all reap the benefits of this meeting of the minds."

Museum staff and college personnel from the Skinner Museum and Mount Holyoke College in South Hadley, Massachusetts are similarly enthusiastic about the results thus far of their NEH-funded collaboration.

Unlike the College Gallery Program which enabled colleges without major fine arts collections to use the rich resources of the Worcester Art Museum, the Skinner Museum project built on its already formal association with Mount Holyoke College. The stated purpose of the project, "Viewing the Humanities Through the Skinner Museum," is to " . . . improve the ability of the Five Colleges, Inc., and specifically, the faculty of Mount Holyoke, to interpret our American culture through the use of the collections of the Skinner Museum."

A Mount Holyoke professor recalls earlier advice from Robert Dalzell of Williams College, that " . . . the success of the Skinner Museum . . . in its relationship to the College is dependent inevitably to the extent to which individual faculty come to know the collection and come to relate the collection to their courses. . . ." Faculty in a broad range of disciplines, from biology and geology to history, psychology and sociology, had a history of using the material culture collections of the Skinner Museum as supplemental material, generally with considerable assistance from the director, Beth-Anne Chernichowski. They were willing to use the collections, but lacked the skills to personally teach from the objects and effectively integrate the collections into course work.

Chernichowski felt the faculty needed a true model upon which to develop their ideas and skills. The three-year project, 1979-1982, is structured to accommodate the school's calendar. In the first and second semesters faculty used the collections with the help of Chernichowski in a workshop format. The workshops used objects to enhance the interpretation of traditional course resources, books and documents. Students were surveyed as to the effect of the experience, their command of the material, their attitudes toward the course content and learning environment, and changes in their perceptions of cultural institutions. In five of the six semesters, students and faculty meet to publicly exchange ideas about the experiment. These Skinner Forums are taped and transcripts made available.

Between the first and second, third and fourth semesters, during January Winter Term, Chernichowski presents a course for students on basic conservation of collections. The students learn elementary care and handling of artifacts and, she hopes, acquire an enhanced appreciation for the remains of the past.

The third and fourth semesters, 1980-81, repeat the workshops, student

evaluations, Skinner Forums and conservation course. In addition, the teachers are expected to adjust their courses to permit additional use of the collections. Faculty from different disciplines will be encouraged to work together in the design of a one-semester course in material culture to be taught the fifth semester. Released time will be available the fourth semester for faculty to design the course.

Chernichowski feels strongly that news of learning from objects in general and the Skinner Project in particular need to be shared with others. She will document their three-year effort as a model for other institutions interested in enhancing the interpretation of American culture through material culture.

Quite apart from interest in major proselytizing, Chernichowski and the Skinner Project seem to have solidified support at the College for learning through objects. A professor from the history department commented at the first Skinner Forum that reading artifacts has helped his students read books and documentary evidence more critically. He had not foreseen that. Joseph Ellis adds, "I hadn't conceived the exercise as a preliminary to the kinds of assignments that I regularly do use. . . . But it turned out that it was, . . . especially for Freshmen and Sophomores."

The student perspective was also shared at that same forum. "I had a chance to go through this process of object reading, . . . first semester in . . . history and then . . . in an art history seminar. . . . And just thinking about what you were saying about how to learn to do that. I didn't know how to do that . . . (W)e touched (the objects) and . . . thought and pondered and tried to figure out what they were. Once, twice, three times. And then it just clicked all of a sudden, we saw the object and the object was telling us something. And it's not something that you learn, it's something that you start to feel. And the thing that I found most important . . . is that you don't only learn . . . how to read a chair, how to put it chronologically, how to analyze how it was done, but you learn a frame of mind. . . . I think . . . there should be something done institutionally to put these things together (disciplines of American studies)."

"Team Effort Supports Anthropology in Schools," Washington, D.C.

Secondary teachers of science and social science in metropolitan Washington, D.C., have a golden opportunity to learn from university and museum anthropologists, to integrate anthropology into their classroom teaching, and to earn up to eight tuition-free graduate credits at the same time. All these are part of the "Anthropology for Teachers Program," a three-year team effort of the anthropology departments at the George Washington University and the National Museum of Natural History, Smithsonian Institution. The program has three components: a course, "Anthropology for Teachers"; a newsletter, *Anthro•Notes*; and a resource center of anthropological teaching materials.

About the program's initial development, staff member Ruth Selig remarks, "University and museum staff approached school curriculum supervisors and teachers and worked out the program with them. In our

planning, we interviewed about fifty people, mostly school personnel from the surrounding counties. We made many decisions about scheduling and content because of these initial discussions with school people. Our own resources and experience with teaching high school and previous courses for area teachers also helped. For others considering a similar program, I urge them to consult with school personnel first; arrange for graduate credit and for substantive content to justify the credit; and schedule the classes at the convenience of the teachers."

Candidates for the course are selected on the basis of the subjects and grade levels they teach, their motivation to integrate anthropology into current curricula, and their academic and teaching strengths. The heterogeneity of each class enriches course content and broadens the applicability of the program to include many grade levels and subject areas.

Approximately seventy-five teachers from area school systems are enrolled in the two semester course. The course focuses on eight anthropological topics that can be useful in teaching other subjects like biology, geography and world cultures. Sample topics for the 1980-81 Anthropology for Teachers course are "Primate Behavior," "Socializaton in African Cultures," "Civilizations of the Past: Archeology and Ecology," and "Health, Healing, and Religion." Each topic is the subject of a lecture, experiential teaching activities and a discussion with research scientists at an area resource location. In the final class of the four sessions scheduled each month, participating teachers share curriculum units they have developed on that particular topic. From monthly evaluations, changes in the course are made.

A teacher resource center and a newsletter were initiated during the second year of the project to provide continuing assistance to those teachers who have completed or who are unable to attend the course. A series of open evening meetings is planned for the fourth year of the program.

The Anthropology Resource Center for Teachers and the newsletter, *Anthro•Notes*, distributed free of charge, provide continuing assistance and support to teachers in the metropolitan area. The center, located in the Naturalist Center of the National Museum of Natural History, contains basic anthropology curriculum units, multi-media kits, educational resource catalogues, skulls and a vertical file with bibliographies and information on useful teaching resources. Eventually teaching units developed by course participants will be available. The newsletter, to which teachers are contributors, keeps teachers up-to-date on a variety of topics, resources, developments and activities for the individual instructor's continued personal development and for use in the classroom.

Reflecting on their nearly four years of work with the project, JoAnne Lanouette commented: "The strengths of the program grow from its development with the assistance of area curriculum supervisors and teachers and the continued involvement of participants through the monthly evaluation process. The program is always changing to meet the expressed needs of the participants. One reason participants consider this program successful is that it offers solid academic instruction along with clearly defined strategies for teaching anthropology in individual classroom situations."

With the benefit of hindsight, Selig and Lanouette would like smaller classes of fifteen to twenty teachers, more time for discussion of the reading, formal evaluation by an outside expert, and earlier advertising of the

program.

The course is offered for three groups of teachers, in three separate school districts. Each section meets three afternoons a month at a centrally located school from four to six in the afternoon. One Saturday a month, all three groups meet with research anthropologists for three hours in the morning at a museum or resource site. The staff of four includes a project director who is responsible for over-all administration, academic content, several monthly lectures and Saturday seminars; and two project instructors who teach the three sections, produce the teaching materials, edit the newsletter, develop the resource center, and organize the evening meetings; and a secretary who also helps design and edit the newsletter.

Funds for the Anthropology for Teachers Program come from the Pre-College Teacher Development in Science Program of the National Science Foundation. Funding is awarded to the university, with program activities conducted by staff from the anthropology departments of the George Washington University and the Smithsonian Institution.

For further information about the program, contact Dr. Alison S. Brooks, Director, Anthropology for Teachers Program, Department of Anthropology, Smithsonian Institution, Washington, D.C. 20560.

Nurse Education Program
New York, New York

For twelve years the American Museum of Natural History in New York City promoted its Nurse Education Program which featured the then-new Hall of Human Biology in two-hour programs. Other exhibition halls, films and lectures were also used. Nurse training schools were encouraged to use the museum as an enrichment to their scientific curricula. The program was created to meet a demand demonstrated by a needs survey of area nursing programs and ended when demand dropped and the museum staff size was reduced.

"University Project is Catalyst for School-Community Cooperation," Murfreesboro, Tennessee

"There are a number of reasons we initiated the Mid-South Humanities Project," says Dr. James K. Huhta, professor of history and director of the historic preservation program at Middle Tennessee State University in Murfreesboro. "We want to foster a collaborative working relationship and dialogue between the different entities involved with local and regional heritage—and establish that communication through the public school classroom. American history and literature are our specific curricular focuses. These courses are too often considered irrelevant and uninteresting by students. We want to provide a vehicle to respond and repair the obvious alienation that has occurred as the schools drift apart from the community. We hope to enhance local pride and promote community participation in the process."

Huhta and Dr. Francis R. Ginnani, a professor of English at Middle Tennessee, are co-directors of a major five-year project to establish a regional program to promote the use of community resources through training of teachers, development of curriculum units and materials, and identification of collection and classroom uses of local and regional resources. Since 1978, the project has established trained demonstration center teams of teacher-consultants in mid-South states of Alabama, Arkansas, Georgia, Illinois, Indiana, Kentucky, Louisiana, Mississippi, Missouri, North Carolina, South Carolina and Tennessee.

Teams are comprised of high school and community college history and language arts teachers. Those teachers attended a three-week long summer institute at the university in 1979. Out of that institute came a 150-page manual which details plans developed by each of the forty-five participants for the introduction of cultural resources into their classroom studies and for their similar assistance to statewide colleagues. The results of these projects will be central to a "how to" book scheduled for publication in 1981.

In late 1980 the Mid-South Humanities Project entered Phase II. Those original forty-five teacher-consultants assist in heritage resources workshops in each state to bring the project to an additional three hundred teachers. In July 1981, thirty-six state level curriculum coordinators, developers and supervisors will attend a week-long institute. Education staff from museums and historical societies will also be included.

Three separate evaluation processes are on-going. Teachers supply individual evaluations when applying their plans to their classrooms. A fifteen-person Board of Visitors reviews and advises the project. And there is on-going staff evaluation. If information from all three sources agrees, the project staff assumes all is fine. If not, the descrepancy is immediately investigated.

For others considering a collaborative project, whether or not one of this scale, Huhta shares his many years of experience. "Allot ample time at the beginning to set up a network that touches the principal institutional bases. This is the political thing to do. Open doors and get across the board support. We get news of our project out to all potential participants through normal networks, like professional publications, newsletters, state commissioners of education. Plan a strategy to accomplish this goal. It's very much like conducting a campaign. Planning strategy is most important. If it's workable, there's a probable chance for success—of course the success also depends on the staff who implements the plan." (For us, no single strategy worked in every state.)

"We received a major grant from the National Endowment for the Humanities to set up the Mid-South Project. But critical outside funding will not be necessary to maintain this program. We believe there *is* a cost-effective way to ensure participation of teachers and key involvement of state support. To interest and maintain school participation, it is imperative that there be plenty of well-thought out front end planning. Reasonable costs and benefits to schools must be outlined."

Joe Spence of Lenoir City, Tennessee, is a veteran teacher with twenty-two years' experience. He was one of the initial teacher-consultants and is enthusiastic about the program and its results. In *History News*, September 1980, he made these remarks.

> "As he begins a new school year with a new American studies class, Joe reflects, 'For years and years you teach and don't even know if the community knows you're alive, much less cares about what you're doing in the classroom. Now it is really rewarding to know that the community is interested in what we are doing. I think this class has done more for better relations between the school and the community than anything that has happened here.' "

Huhta concludes, "This is an idea whose time has come. A certain nostalgia pervades the country and there's a strong desire on the part of many, many people to get back to 'roots.' "

Three other sources of information about the Mid-South Humanities Project are: *Humanities*, September/October 1980, a publication of NEH; "Mid-South Teachers Take the Local Route to American History," *History News*, September 1980; and *Humanities in America, an agenda for the 1980s*, Rockefeller Commission on Humanities.

Reaching Teachers

Teachers have greater influence on students than museum personnel. In New Zealand, seventy-five percent of the teachers have spent at least six weeks learning how to use museums. Until more students studying to be teachers receive similar training, museum educators will need strategies to hook teachers on museums. A few strategies are suggested here.

"Who Rattles the Box?", Peter Harder, Teacher, Avon, Connecticut

"Do the marbles rattle the box or does the box rattle the marbles?" asked the philosophy instructor some years ago as he introduced the conceptual relationship of mind and body to our bewildered class. As a high school teacher and K-12 history and social studies department head, the marble-box image has served me well as I've taught relationships in history, and, moreover, as I've considered the interdependence of our schools and other institutions, especially other institutions in the teaching business.

It seems rather obvious that museums are pointless without patrons, present or future; and that museum education is equally pointless without teaching patrons. Does one or should one "rattle" the other?

Several years ago I had the pleasure of taking two weeks of training at Old Sturbridge Village, Massachusetts. Along with a dozen other teachers, I spent six hours a day working and learning with teaching colleagues and professional museum staff. I learned about the specific opportunities at Sturbridge and about various techniques for using the Village resources with my students. In addition, the experience was an opportunity to consider ways to develop local resources in my own teaching town.

In those two weeks, I hatched plans to write middle school curriculum units about our town's history, and to develop specific units of study for slow-learning high school juniors, who were studying American history with me at the time. I had considered doing both before but had never had the time, and, quite simply, Sturbridge provided the creative environment for my work. There is little doubt that eventually I would have done the curriculum development anyway, with or without the Sturbridge experience.

However, I am equally certain that not only would the work have been done much later, it would have been done much less well. The museum as a professional refuge became a reality for me, a time to think and a time to do.

With the encouragement of the museum staff, I started the curriculum development work by selecting one significant historical period in my town that needed researching. Using Village documents and some of the techniques taught to me by the museum education staff, I developed some lessons.

In the nineteenth century our town had been one stop on the locally famous Farmington canal, which ran from the coast at New Haven to the Connecticut River at Northampton, Massachusetts. The canal is now filled in and for the most part is obliterated. We had very little information about the canal and few teachers even knew about it much less taught about it. I wrote a brief history of the canal for the middle school and at the same time I developed several simple activities about it for my junior students. Later in the year, students walked part of the former canal route in our town and role-played events that centered on real people from our town's history. After, we developed map lessons using existing aerial photographs of the town over which we traced the original canal route.

Since that time several years have passed. Our school district has sponsored a summer workshop to continue the writing of units about our town, some of which employ the Sturbridge techniques that I was taught. Future plans call for the revision of our American history course for slow learners to include many more field experiences to museum sites.

I believe that we would see more utilization of museum services if teachers could see those services not as add-on experiences, simply field trips, but as a way to improve what they were already doing. A period of time away from their regular teaching environments, and help in developing local resources which they have identified might be two attractive ingredients in any comprehensive service offered to teachers and their school administrators.

Museum educators should become more aggressive by working with local school districts many of which are now searching for staff development ideas from outside agencies. Both school administrators and social studies teachers could be approached through their professional associations. Local and state social studies groups frequently have communication networks that are maintained through newsletters and regional workshops. I found out about the Sturbridge opportunity through a friend who had received notice by mail.

School districts, museums and professional organizations should contemplate joint grant writing. Grants that stress cooperative arrangements between institutions in search of common educational ends are looked upon favorably. The Connecticut Council for the Social Studies has recently participated with other agencies in the writing of grants that have funded summer teacher institutes and year-long teacher workshops to produce curriculum. The possibilities are endless for grant applications to local funding sources or to the state counterparts of the National Endowment for the Humanities.

Museums can learn from the people whom they train. There can be and I think that there should be a more symbiotic relationship between muse-

ums and teachers. I believe, for example, that teachers who have some training at a museum are a powerful resource for the museum. I was such a resource while at Sturbridge where museum educators were very careful not to miss the opportunity to seek the advice of the teachers they were training. The advice was plowed back into the training and appropriate modifications were made in the training schedule.

Museums should stress the creative potential of a museum education experience in their appeals to the teaching profession. My two weeks was, in a sense, a mini-sabbatical where I could nurture and develop ideas. I had expected training; I didn't expect a refuge. Museums might consider communicating that aspect of their work more effectively.

More cooperative work between teachers or teachers' professional groups and museum educators is needed. The question of who rattles the box, who initiates the relationship, who sustains it or who is the more influential partner is hardly the point. The point is that together more constructive and creative sounds will be heard.

Associate Teacher Program
Seattle, Washington

Each school year, the Pacific Science Center in Seattle hires teachers for special science leadership experience as members of the staff. A master's degree in science education can be earned in conjunction with this work at area universities. Usually the associate teacher is on sabbatical leave or leave of absence from the school district. At the end of the year, the associate teacher is experienced and qualified in teaching grades K-6, regular and learning disability students, instructing teachers at in-service workshops, and creating and refining lessons and activities.

Educator Pass Cards are another means by which the Science Center reaches teachers. Educators are invited to make a leisurely preview visit to select exhibitions to emphasize and to prepare follow-up activities prior to the class visit. Teachers fill out and return a request card; they receive the Educator Pass Card by return mail. This also provides Science Center staff with the names of motivated teachers.

"Reaching Teachers Reaps Rewards," Worcester, Massachusetts

"Teacher-training programs are on the increase in America, and they ought to be. It is neither the museum educator nor the museum docent, however dedicated, who best understands students or who can properly and effectively integrate the museum experience into the broader scheme of the curriculum; the classroom teacher is the expert. At a time when the arts are being cut from school systems throughout the country, an arts-infused program of study becomes essential for future generations of children. Each and every time a museum trains a teacher, hundreds of students reap the bene-

fits." Taken from its own teacher-training literature, this statement reflects the philosophy and action of the education staff of the Worcester Art Museum, Massachusetts.

The museum received a one-time only grant in 1979 from the National Endowment for the Arts to pilot a summer training program for high school teachers of all disciplines. The primary goals of the program were to acquaint school personnel with the museum and to train them in methods for developing curriculum units using the art museum as a primary resource facility. Likewise, the program provided opportunities for museum staff to become acquainted with the considerations of teachers and school administrators about using the museum for developing curricula and museum use by students.

The program was designed to integrate a variety of subjects and strategies using objects from the museum's collection to teach high school students. Twenty-three teachers were recruited from four area high schools and were paid a per diem for attending the summer institute at the museum. The institute was conducted by the museum's Curator of Education and consisted of seven full days of intensive instruction. Other museum personnel involved in the project were the librarian, the slide librarian and a program assistant from the department of education. The Curator of Education was also assisted by school curriculum supervisors who attended some of the classes, offered advice and reviewed the resulting curriculum units developed by participating teachers.

The concept of teacher training originated contemporaneously at the museum and in the schools. Both museum and school personnel expressed an interest for a more systematic approach to integrating museum study with classroom study. The secondary school audience was selected as a target population because it was often neglected because of increased specialization and time constraints.

"One of the particular limitations," pointed out Ellen Berezin, Curator of Education and project coordinator, "for participating teachers was the overspecialization of some individuals in the group. This caused members of the group to feel isolated and inhibited about sharing ideas and points of view about how the museum experience could facilitate teaching in all their subject areas." Additionally, the teachers in the course were from four different high schools with varied socio-economic compositions. This only heightened the degree of isolation and competition among participants." Berezin described the atmosphere as "reverse school spirit." When asked how this issue was dealt with during the program, she explained, "It became less and less of an inhibiting factor the more the group participated in exploring their own commonality and uniqueness and discussed ways of dealing with them."

The funds from the Endowment were used primarily to cover the costs of teacher stipends, curriculum materials, a brochure describing the project and the dissemination of the curriculum units that were developed during the course of the project. Museum staff salaries and facilities were used to match the federal grant. While the schools and the museum staff felt that the program was successful, the schools have not budgeted for the coming year any funds to continue the project. The museum has prepared a similar proposal with several revisions based on the evaluation of this project to be sub-

mitted to a variety of funding sources for a program for teachers on the junior high level. The revisions include incorporation of a follow-up component to assist teachers once they return to the classroom to continue to implement the strategies learned; clearer definition of the specific tasks the teachers must complete as participants in the program; money for transportation costs to bring students to the museum; and funds to pay a curriculum developer to edit and organize the teacher-developed units into a universally understandable and consistent format.

"As a result of this program," Berezin concludes, "while there are some major considerations about continuing this kind of programming in the museum, we feel we have a better understanding of the problems and possibilities of museum-school programming. We have established significant relationships with members of the school system which will be useful and essential in planning and implementing programs for students. And the ideas that were generated for interdisciplinary programs are worthwhile and will be pursued in the future."

"Tips for Planning Your Workshop," Buffalo, New York

L. Richard Meeth, a former professor of higher education at State University of New York at Buffalo, proposes that in-service workshops have become a primary vehicle for promotion, recognition, professional growth, and increased salary, components of job satisfaction that once were attained through mobility. People attend workshops for a wide variety of reasons, workshops that, in general, can be made more effective. Meeth has prepared a list of ten factors common to workshops that work well.

Meeth notes, "The content (of the workshop) itself remains critical and the mix of persons involved continues to be the mystery ingredient of success. But these factors can help provide a context in which people take more seriously the medium for growth most often used today for teaching improvement." Those that work well often have:

1. *Preset outcomes* that are known to all potential participants before they become involved. These provide a precise behavioral description of what is expected in the workshop. They set the parameters and suggest the workload as well as portray what one might expect to learn, all of which can increase participant's interest and decrease their anxiety about getting involved.
2. *Prior readings* that are short, pointed pieces with built-in assignments. Such readings encourage participants to prepare for the workshop, especially if the readings are controversial. The advantage of this technique is that all participants start at a common level of understanding.
3. *Involvement of participants* in structuring the outcome and the agenda. Including potential participants in the setting of outcomes and, once the workshop starts, leaving room to modify the agenda, gives people a greater feeling of responsibility for the workshop. By offering their judgments of what should take place, they invest something of themselves in insuring the success of the meeting.

4. *Advanced commitment* by the participants through contracts or statements of commitment. Before the workshop begins, it is important to explain in detail through a written statement what the workshop will provide and what participants should expect to accomplish. Once having signed such a statement, they have a much stronger commitment to, and a greater involvement in, the success of the workshop.
5. *Brevity*. A two-day workshop often accomplishes more than a three-day workshop. As time goes on, participants need more breaks, and the assimilation level decreases unless new stimuli are introduced. Keeping the workshop on "company time" near the end of the week seems most effective; participants tend to feel a stronger obligation to serious work.
6. *Rehearsed presentations* so that there are no negative surprises from speakers or leaders, or serious contradictions among them. Selecting known leadership is not always possible and "leading lights" in the field of teaching improvement may be terrible workshop leaders. It is often better to attract talented people closer to home who will be willing to prepare specifically for the workshop.
7. *Clearly defined tasks* to be performed by participants. To hold a workshop and not require anything of those who come misses the opportunity for increased involvement, reinforcement of learning, and meaningful evaluation. Workshop groups should come up with questions for discussion in advance, and individuals—in pairs or groups—should be supplied with task worksheets. Simulations such as role playing also appear to be effective workshop techniques for increasing involvement.
8. *Tests of knowledge, skills, and/or attitudes* acquired during the workshop. To reduce the anxiety level, the test answers can be handed out at the same time as the questions for self-scoring. Pre- and post-tests can help to measure the long-term value of the workshop.
9. *Follow-up activity* or, as it is called in the schools, homework. Some tasks that people are asked to perform after they leave the workshop to synthesize what they have learned are never completed. Tasks should relate to the things attendees do in their daily work if they are to have the greatest potential for transferring insight into action.
10. *Participant evaluation*. Most workshops ask sense-of-the-experience questions only during the final 10 minutes of the workshop, but if the 9 points listed above are used, the evaluation can be much broader, more related to learning, and include products of achievement. The best workshop evaluation is on-going, from the first session to well after the last assignment has been completed, even if that is a week or a month after the workshop is over.

This list is an excerpt from Meeth's article, "In-Service Workshops: Does the Medium Convey the Message?", *Educational Change Magazine*; the date is unavailable. This material is reprinted with permission of the author.

"The idea of a museum offering . . . teacher-training workshops or seminars certainly is not a new one; however, those we were aware of did not suit our needs. The models that we examined either attempted to tell teachers how to be better educators using museum education methods, or sought to show teachers how to use the museum and its facilities for self-guided tours. We felt the first approach to be presumptuous on the part of the museum and the latter to be a bit self-serving. In developing our seminars, we focused on dealing primarily with the local subject matter needed by the teachers."

Gail Green and Linda Pulliam, Albany Institute of Art and History, Albany, New York, from their article "How One Museum Helps Teachers Find Local History Resources," *History News* 35 (September 1980): pp. 14-15.

High School Audiences
Sturbridge, Massachusetts

Peter O'Connell and Mary Alexander consider the usefulness of teacher workshops in "Reaching the High School Audiences," *Museum News*, November/December 1979. For secondary teachers, Old Sturbridge Village, Massachusetts, has offered three types of workshops: a two-week summer workshop of five follow-up sessions in which teachers develop two-week units; a three-day workshop to involve teachers in use of the museum, most for the first time; and one-day orientation and planning workshops for teachers who already use the museum. Teachers' evaluations of these workshops indicate their attitudes did change as a result. Teachers' comments verify educational data that attitudes change not because of information, but because of positive personal involvement in a new experience. What makes a school-museum program work? Alexander and O'Connell quote a teacher-workshop participant, "The museum coordinator must be enthusiastic, organized, open; materials must be available to eliminate lost time in random searching; the school team must be dedicated and cooperative; time (is needed) to meet the staff, visit the museum from the outside and plan a workable program; (there should be a) stipend for teachers and initial funds for trips until the program proves itself."

The authors suggest that working well with as few as ten or fifteen new high school teachers each year can increase secondary student visitation by 500 to 1,000 students, and improve the quality of the museum's resources for other teachers and students. This is especially important in the first two or three years of a museum's efforts to work with high schools.

"Reaching Out to Teachers and Schools," Mary Alexander, Education Specialist, National Archives, Washington, D.C.

In a 1979 Mountain Plains Museum Conference survey of future museum education programs, of the eighty museum educators who responded, forty percent indicated that they would cope with the energy crisis through expanding their outreach programs. Just as Americans have absorbed the energy crisis into their perceptions of normal, so too have museums subsumed outreach programs as regular educational offerings.

Here I will describe in some detail a process for developing outreach or instructional materials regardless of the audience. The process is based on the experience of the staff of the Education Division of the National Archives. Outreach materials are defined here as materials provided for an audience, whether teachers, students, or senior citizens, who use those materials without being within the institution that created them. They literally reach outside an institution's walls. However, do not assume that the users of these materials will never visit the institution, rather that when they use them they are not on site, for outreach materials may be used as a teaser to encourage visits, or as a follow-up activity after an actual visit.

There are seven steps for developing outreach materials:

- Establish your objectives.
- Assess the capabilities of your office and institution.
- Contact teachers (audience) to test your objectives.
- Become observers of teachers: meet with them, read what they read and attend their professional meetings.
- Look over other school materials to gauge your competition.
- Learn to use readability tests.
- Collect materials produced by other museums and cultural institutions.

At the National Archives we began to develop outreach materials for high school teachers during the summer of 1976. We carefully established our objectives. We sought to extend the National Archives' educational resources beyond school tours to teachers outside the Washington, D.C. area. We determined to provide social studies teachers with materials that exposed students to the skills used by historians (e.g. identifying bias, weighing evidence, and developing logical generalizations). We envisioned our materials as supplemental to current teacher strategies, and therefore not requiring teachers to restructure their classroom routines. And finally, we were committed to involving teachers in all stages of the development of our materials. Once we had clearly defined our objectives, we assessed our in-house capabilities and determined those aspects of the project that we as an office and an institution could best fulfill. We concluded that as a staff of three we would be able to research and develop the materials, but not to produce, promote, or maintain an inventory. Therefore we contracted out those aspects of the project that we could not perform ourselves.

To establish contacts with teachers, we spent time in Washington-area schools meeting with coordinators of social studies, department chairmen, and classroom teachers. We joined the National Council for the Social Stud-

ies and faithfully read teachers' magazines like *Social Education*, *Social Studies*, *The History Teacher*, *Learning*, and *American Education*. Furthermore, we offered to write articles for these journals describing our efforts to bring the resources of the National Archives to social studies teachers. At the same time we collected social studies textbooks and used them to gauge how our materials might best supplement those ubiquitous teaching tools.

Social studies teachers became our clients. We set out to provide useful materials for them. We arranged after school meetings with teachers through the social studies coordinators. As four o'clock in the afternoon is not the most conducive time for meetings, we limited our discussions to one hour. Furthermore, we focused on those teachers most sympathetic to our interests and did not concern ourselves with converting the uninterested.

In working with teachers we tried to tap their abilities; we asked them to help us do our job better, not to do it for us. We asked them questions about our proposed materials:

- Should we provide students with facsimiles of documents or retype them?
- Would you like a teachers' guide to help you work with documents? How much historical background should it include?
- What topics in American history would you like to see covered? Indians? Immigrants? Women?
- Can your students use primary sources? What kind of guidance do they require?
- How much can you spend (as an individual, a department, a school) for supplemental materials?

Their answers to these and other questions shaped the final format of our outreach publications.

As the materials developed, we maintained our contacts with teachers. We asked them to review small segments of our materials and to informally share their reactions with us. Some institutions offer stipends to teachers for this assistance; unfortunately, we were unable to do that. As we began to market our outreach materials, we initiated a more formal evaluation of our materials. This evaluation is simply the logical extension of our commitment to involve teachers in the process of developing the materials. Through this evaluation we hope to emphasize our strengths and limit our errors in future materials.

From the outset of this project, we attended social studies teacher conferences both locally and across the country. Through these meetings we made our most valuable personal contacts and visibly displayed the commitment of our institution to social studies teachers. We made formal presentations at some conferences while attending others simply as participants. These presentations included sample lessons from the materials we were developing and also allowed for discussion of diverse approaches to teaching with documents. While at conferences, we attended sessions given by leaders in the field and asked questions (we were careful to identify ourselves to the other members of the audience). We also browsed through the exhibit area looking at materials similar to our own and watching publishers and salespeople in action. We talked with them about how they kept in touch with teachers' concerns. Social studies conferences were as useful to us as

museum-related conferences.

We also spent time in several school system media centers and professional libraries. We reviewed our competition. We considered: What are the materials like in format? How do they present their instructional objectives? How much do they cost? We talked with the media people about such issues as: How much money is spent on supplemental materials? Who controls the purse strings? Does the school system have a process whereby materials must be approved? How does one get materials on the approved list? We collected copies of the evaluation forms used by the school systems in the Washington, D.C. area. These forms guided us in making sure that our materials would not be rejected simply because our objectives were improperly stated or for some other oversight. If you know the criteria by which you will be judged, you can better meet those standards.

Today high school teachers are concerned about the fact that many students do not read well. Teachers want materials to use with their students with reading problems. Most publishers provide readability ratings for their materials. The tests for readability are simple to use. They allow you to speak with some authority about the reading level of your materials. We applied the Frye and Cloze readability tests to our materials and shared the results with teachers.

While we immersed ourselves in the interests and concerns of teachers, we also talked with our colleagues in other museums, recreation centers, and libraries about their outreach programs. We collected samples of those we found interesting, attractive, well-written, or popular. We collected bad examples, too. We found these materials very useful gauges of what we sought to emulate or avoid.

The task of learning about teachers and establishing links with them is one that should not be assigned to part-time or junior level staff, nor is it a task for a summer intern. The contacts with teachers offer vital information for outreach materials. This information can be both obvious and subtle. Furthermore, the teachers you meet will judge the commitment of your institution by the staff who consult with them; take the boss along, too.

While this essay outlines an important and serious process for the development of school outreach materials, it neglects one important aspect of that process. The teachers who you meet and talk with can become collaborators, critics, customers, and, perhaps best of all, friends.

The author thanks Nancy Malan of the National Archives for her criticisms of early drafts of this essay.

"Bridges Beget Bridges," Sturbridge, Massachusetts

"Building a collaboration is like building a friendship, so nurture it," advises Alberta P. Sebolt at the Museum Practitioners Seminar, February 1980, sponsored by the Museum Education Program of George Washington University, Museum Education Roundtable and the National Endowment for the Humanities. As Director of Museum Education at Old Sturbridge Village, Sebolt and her staff have taken several steps to establish effective communi-

cation with school educators, to nourish their teacher-museum collaboratives.

Their receptions and conferences for teacher organizations allow informal contact with fellow professionals as a group. Their open house with hands-on activities and tours for school administrators and their families acquaint decision-makers with the museum's rich resources. Their invitations to teachers to evaluate and review materials involves teachers in program development. Old Sturbridge invites teachers to take their sabbaticals at the museum. Since 1971, the teacher training program has served annually approximately thirty elementary and secondary teachers in a year-long course of study. Shorter workshops are available too, some for credit. (*The Art Museum as Educator*, edited by Barbara Y. Newsom and Adele Z. Silver, details the Teachers Center at Old Sturbridge Village.) In at least two instances of collaboration between Old Sturbridge Village and area schools, classroom materials have been the tangible results.

The first of these collaborations began in Summer 1976, and linked Worcester Public Schools with the Village's Urban Schools Project, funded by the National Endowment for the Arts. Reporting on "The Worcester Sourcebook" in *Museum News*, March/April 1978, Ellen Rothman, the project coordinator, recalls thoughts of the collaboration from the initial week-long workshop with nine participating teachers. "We envisioned then that our (collaborative) bridge—like the (New York City) George Washington Bridge—would have two levels: one to link community resources and schools; the other to bring primary source materials into the classroom. We identified resources, ranging from the Worcester Historical Society to the army recruiting office, and materials from public broadsides to private diaries, to which Worcester teachers needed greater access. Together we planned how best to create that access."

In her lucid and practical account of the year-long project, Rothman points out the importance of the teacher involvement, "(The teachers') role as consultant-developer was a new one and none of us knew quite what to expect. We had designed the project to maximize the contribution of the teachers to the collaboration between the museum and schools, but we assumed that it would be the museum staff who would implement it. The teachers did not disagree; they knew they did not have the time. . . . But they tended to underestimate the direction they had provided. . . . Their enthusiasm then, and in the months since, is the single most important ingredient in our dissemination strategy."

Building on the experience of producing *The Worcester Sourcebook*, a year later the Village staff embarked on a similar bridge-building effort. With ten fifth-grade teachers from schools in five towns near the museum and funding again from the National Endowment for the Arts, the project began with a three-day workshop for all participants. The project director, Warren Leon, lays out the history of *The Small Town Sourcebook* in his article, "New England Teachers Go to the Source," *History News*, September 1980, and reflects on the project's success. "The success of the project did not result from unique talents or unique resources. It came from the application of a few simple rules:

- We focused on the teacher and student perspectives from the beginning.
- We thought of the book as an educational tool and therefore considered skills and values as well as historical content.
- We gave teachers activity suggestions that enabled them to transport the book successfully into the classroom.
- Finally, we related the past to young people's lives today.

The formula is not difficult."

Copies of both sourcebooks and accompanying teacher materials are available from The New England Bookstore, Old Sturbridge Village, Sturbridge, MA 01566.

Model Curriculum Model
Sturbridge, Massachusetts

A very useful and clearly presented *Guide for the Development of a Curriculum Model* can be of enormous help for those educators who seek a systematic, organized approach for developing curricula plans. The workbook is written with a museum focus by Alberta P. Sebolt, Director of Museum Education at Old Sturbridge Village, Massachusetts. It divides the task of developing a curriculum plan into seven steps—rationale for the program, the focusing questions, identifying concepts, forming generalizations, instructional objectives activities, putting the plan together and evaluation. A 29-item bibliography completes the short, thirteen-page guide.

The curriculum workbook is available from The New England Bookstore, Old Sturbridge Village, Sturbridge, MA 01566.

"As Basic as ABC," St. Louis, Missouri

The *Handbook of Museum-Based Lesson Plans* is a collection of lesson plans—designed and used by classroom teachers in individual consultation with a museum teacher. Through workshops at the Resource Center of the St. Louis Art Museum, teachers became familiar with the museum's collections and the exciting possibilities of integrating works of *art* into the *basic* curriculum, hence ABC. The handbook reflects the results of classroom teachers, kindergarten through high school, in language arts, social studies, art, math and science. In each lesson plan, the work of art is the focus of the investigation; each plan intends to develop the student's perceptual awareness, a useful tool in all learning.

Sixty classes from five area school districts participate in ABC. About ninety percent of the participants are fifth graders. In preparation for the program, a museum teacher who is also a certified teacher, will confer individually with the classroom teacher. The two set lesson objectives and content, with links to the museum's collections uppermost in their minds.

ABC sessions are coordinated with classroom subjects that will be taught concurrently. All teaching sessions, gallery or classroom, are conducted by the team of museum and classroom teachers.

Within the ABC program, students spend from two to six half days in the museum galleries. Each half day in the museum is supplemented with weekly follow-up units in the classroom. Veronika Jenke, Coordinator of Youth Programs at the St. Louis Art Museum points out, "Aside from reinforcing the museum unit, the follow-up provides a curricular tie and continuity between the two locations and valuable consultation time for the teaching team."

ABC was initiated in January 1978 with support from the National Endowment for the Arts, Missouri Arts Council and the St. Louis Community Trust. It reflects the philosophy of the education staff that learning is enhanced through "integrated disciplines and referential experiences." Rubin H. Piper of the museum writes in the *Handbook:* "Interested teachers, education and perception researchers and behavioral scientists have been adding to a growing body of knowledge about how learning occurs. More and more often, both in the literature and by word-of-mouth, we hear of . . . the motivated art specialist planning with the classroom teacher projects to make concrete the skills of sequencing and symbol classification. The work of all of our colleagues in the various fields has relevance to those of us in the education areas of cultural institutions, particularly museums. Here . . . we chose to develop a response program rather than a grand scheme to sell to the community. Through careful discussions with classroom teachers, school administrations and Museum personnel we began to define those areas where our goals coincide. As it turned out, this discussion period was the critical point in ensuring success or non-success in the various levels of programming."

"The museum staff is making contacts with other school districts in the area . . . to increase . . . participation with the program. We are offering to write the grants to the funding agency, Missouri Arts Council, for the first year. After the first year, the schools will reapply . . .", says Jenke. She concludes, "This is the third year for ABC. At present we are putting together an evaluation team which will assess the effectiveness and efficiency of the program. Eventually we would like to present the ABC program as a model for other museums, but that is a bit down the road."

In its Spring 1980 issue, *Prism*, a publication of the Museum of Art, Carnegie Institute, Pittsburgh, reprinted the foreward from the *Handbook*.

"Teachers Scour State for History-Unit Resources," Berea, Ohio

A couple of years ago, many Ohio schools moved classroom study of the history of the Buckeye State from seventh grade to fourth grade. Many fourth grade teachers were unprepared for teaching Ohio history. Some boards of education adopted *Let's Discover Ohio* as the official Ohio history book for the fourth grade level, a 237-page combination text and activity book. The authors are two Ohio fourth grade teachers.

A second pair of fourth grade teachers from Berea, Ohio, Betty Vitez and Joanne DeLorenzo, learned they would be teaching state history with *Let's Discover Ohio* beginning in January 1980. Vitez and DeLorenzo proposed to the Berea Board of Education that the pair spend part of the summer traveling the state, visiting museums and historical sites, collecting brochures, hands-on materials and other learning materials to supplement the Ohio history lessons. The Board agreed. Vitez and DeLorenzo traveled over 2,000 miles in ten days as representatives of the Berea Board of Education. Project money covered slide film and developing, tape cassettes, learning materials, gas, food and lodging, entrance fees and reimbursement of the teachers' time.

Upon return, the two women organized their gathered materials into forty resource packets to share with their fourth grade teacher colleagues. The materials and project were the topic of a fall in-service meeting as well. And their slide-tape presentations and reference packets will circulate to the thirteen elementary schools in the district.

Readers interested in learning more about the summer project can contact the teachers at Fairwood Elementary School, 191 Race Street, Berea, OH 44017.

Humanities Curriculum Developed Pittsburgh, Pennsylvania

One museum-school partnership resulted in a practical outline of an interdisciplinary curriculum, "Exploring Humanities in a Museum Setting." In January 1978, the Gifted and Talented Enrichment Program (G.A.T.E.) of the Allegheny Intermediate Unit, an educational center, paired forces with the art and natural history museums of the Carnegie Institute of Pittsburgh. The two received funding from the National Endowment for the Humanities to develop an interdisciplinary program for sixth and seventh graders.

The students, working in groups of a dozen to fifteen with two museum teachers, spent one five-hour day per week in the Carnegie Museums of Art and Natural History. The program included multiple visits of three or four weeks. An article about the program appears in *The Museologist*, Summer 1979.

"An integral part of the project was the practice of not only teaching content from the collections and exhibits in the two museums, but also about a museum and its functions. . . . For example, (students) not only examined exhibits for the information and ideas presented, but also for the execution of the materials and natural specimens used. . . ." In the same article, Ellie Caston, Coordinator of the Interdisciplinary Program, adds, "It was with this goal of educating the students about the museum that the team allowed the students to explore the museum freely during an independent activity. They were encouraged to interact with guards, hostesses, curators or any other museum staff who were on the floor."

***"The Museum as a Teacher Resource Center,"* Raymond Breun, Curator of Education, Jefferson National Expansion Memorial, St. Louis, Missouri, and former Coordinator, Teacher Resource Center, St. Louis Art Museum**

A museum is potentially both an active and a passive resource. It is passive insofar as it gives tours, programs, exhibits and other events which are simply available to who ever comes. It begins to take on an active posture when its structure seeks and incorporates community involvement. Along this active-passive continuum is the notion of a teacher resource center.

The strategies of any museum teacher resource center must be predicated on the skill of teachers who use it. The museum cannot make them little museologists, little (art) historians or little scientists. Educators using the Center will expect more than old wine in new containers. When managing a Center, the museum must be clear on its purpose, careful to arouse expectations it can fulfill and dedicated to the educational purposes of public learning. It cannot set itself up as the only "true source of knowledge." It can seek an equal partnership with the school educators in the joint project of helping students of all ages learn.

Among the constellation of services which should be available in any museum Center (in addition to the regular tours and events) are materials for use in the schools, a delivery system for these materials, a mechanism to sell these on an appropriate scale, courses or classes to assist teachers in using the museum Center, graduate credit for any courses offered which are acceptable for state and district salary scale adjustments, and classes or courses for teachers which can be taken to the schools for faculty meetings and in-service programs. In marketing such a Center, it is useful to reach the teachers *in the schools*. The most effective means of doing this is by going to faculty meetings in the schools to present a short slide talk on the museum and its resources. The goal of such a talk should be to involve the educators in the Center as equal partners in the learning enterprise.

The nature of all Center services should include adaptability, malleability, portability and some consumability. It is tempting to package materials and services from a museum so expensively as to escalate the costs beyond useful limits. The story is often told of the slide mount which was worth more than the slide itself: because of the cost of the mounts, the slide could not be used! Certainly the services should be attractively and distinctively packaged. But the package should be consumable. The materials and services will be adaptable to a variety of grades and audiences if they are easily transported in a recognizable format. When Charles Savage III inaugurated the Teachers Resource Center at the St. Louis Art Museum it became quickly obvious teachers wanted hands-on materials and services they could adapt to *their* purposes. Thus, unlike an art work, a Museum Center service must be malleable and consumable in a variety of situations. The packaging becomes a set design element which is carried through the services and materials at the outset and is useful at all further developments. Concomitant with the package development is the curriculum development effort wherein the Center staff actively participates in the local and state curriculum process as resource persons and educators dedicated to the effort of improving the

educational process through curriculum improvement. Center services are teachers-oriented. Curriculum development is administration-oriented. The Center needs to work on both levels to insure the success of teacher efforts in a positive administrative atmosphere.

A critical element is the involvement of other agencies as funding and accrediting sources. State arts and humanities councils find inexpensive resource services easy projects to fund. University extension programs look for places like museums to extend credit on numerous levels. In St. Louis, five universities now accredit various levels of classes and programs for students and teachers at several museums. The Missouri Arts Council and the Missouri Committee for the Humanities fund learning package dissemination at both the Jefferson National Expansion Memorial and the St. Louis Art Museum to the extent of paying for extra copies for distribution throughout the state.

In summary, a Museum Resource Center for teachers is an opportunity to integrate educational professionals in the overall educational efforts of the museum. At the same time it actively integrates the museum into the public educational program. It starts when a variety of services and materials useful to educators are available on a large enough scale for group distribution. It grows as these services include the professional support services of accreditation from local universities and funding from local and state agencies. It is sustained when an active learning partnership succeeds in developing a solid curriculum relationship such that the Museum Center staff is considered a necessary part of the ongoing curriculum development process, both locally and on the state level.

"Teacher Center—Resourceful Routes to Partnerships," St. Louis, Missouri and Atlanta, Georgia

The function of a teachers' center is to provide opportunities for learning from a variety of sources in an atmosphere which is non-authoritarian and non-judgmental. Ideally, such a center provides teachers with workshop experiences and chances to develop and exchange ideas, gather materials, and use equipment to make teaching aids like films, video, sound tracks, photographs and slides. A teacher resource center must be accessible in every sense of the word. It can be a single resource center or a series of centers, each offering a varied, but supporting experience. Schools and museums are logical sites for teachers' centers and a teachers' center is a natural bridge between the two, a common foundation for a partnership.

The Resource Center of the St. Louis Art Museum and the Museum Resource Center of the High Museum of Art, Atlanta, were established to make the museums and their educational resources more accessible to teachers in the surrounding school districts. In both instances, the museums initiated the contact with the school through curriculum supervisors and are seeking to expand the primary audience to include not only teachers but parents, the general public and leaders of groups like the scouts. The Museum Resource Center of the High Museum was begun in 1979 as a result of the enthusiastic response of teachers to a workshop program which offered teachers training on how to use an exhibition and its curriculum materials. Funds originally came from the Georgia Council for the Arts and Humanities. The center is

staffed by two part-time people who are responsible for coordinating center use, teaching courses and hiring guest teachers for special workshops. Two increment credit courses have been offered through the center and will continue to be offered based on the findings of the school system's research and evaluation division. A framework for volunteer participation at the center has been established with a view to expanding present programs. The staff advises, "Don't be discouraged. Undertaking a program like the High's is a slow and deliberate public relations campaign with teachers, school administrators and curriculum coordinators. Each step leads to another—slowly."

The St. Louis Resource Center was started in 1970 as a result of the museum's goal to collaborate with area schools. Personal contact was made with district curriculum people who were responsible for school policy on the use of museum resources. The two-person staff of the center advocates the necessity of starting slow and gradually building a clientele with programs that are responsive and practical. The time and energy limitations of the area teachers are the primary consideration for the museum resource center staff when they develop programs or materials.

The center offers slides and slide kits, posters, video cassettes, taping facilities, mail service for curriculum materials and individual consultations with teachers. All activities are intended to assist teachers enrich the school curriculum through use of the museum's collection and other museum resources. The center has also prepared a "Handbook of Museum-Based Lesson Plans," which was developed by area teachers and coordinated by the Resource Center staff. The resource center clients are encouraged to share their ideas in the newsletter published by the museum education staff. School personnel are frequent contributors. The budget for the center comes from the museum's education departmental budget as well as from a grant from the Missouri Arts Council. The estimated cost of running the center is $1,700 a month. A fuller report of the St. Louis Resource Center, written from on-site visits, appears in *The Art Museum as Educator*, edited by Barbara Y. Newsom and Adele Z. Silver.

Outreach Centers for Asian Studies New Jersey to California

Confronted with similar joys and woes, museum educators and coordinators of the dozen or so Outreach Centers for Asian Studies across the country are obvious program collaborators and shared resource people. With help from the federal government, several colleges and universities have established centers to provide a wide variety of resources about Asian culture to teachers and others. For instance, the Outreach Center of Yale University, New Haven, Connecticut, has offered a multidisciplinary seminar for elementary and secondary teachers about Japan history and culture. Area museums were resources used by participating teachers to prepare their curriculum materials. Other towns with Centers for Asian Studies linked to local colleges and universities are Austin, TX; Ann Arbor, MI; Charlottesville, VA; Chicago, IL; Columbus, OH; Honolulu, HI; Madison, WI; Oberlin, OH; Princeton, NJ; Seattle, WA; St. Paul, MN; and Stanford, CA.

"The Commonwealth's Cultural Connection," Boston and Springfield, Massachusetts

"Working with teachers helps us see the forest again after being involved with the trees for so long."

"Working with the museum staff was most rewarding. Their knowledge and enthusiasm have given me more confidence in my ability to plan programs that I hope will be realistic and rewarding."

These are statements of a museum staff person and a school teacher, each a partner in a separate museum-school program set up by The Cultural Education Collaborative (CEC) of Boston and Springfield. The quotations from CEC publications are fairly typical of comments by other participants. The Cultural Education Collaborative was formed in 1975, an outgrowth of the concern of fifteen directors of Boston museums for the need for more cooperative programming between their institutions and the schools in the Boston area. The Collaborative was originally part of the Metropolitan Cultural Alliance, a membership organization of cultural institutions in that city. It separated to allow educators greater participation in policy decisions and to serve an audience that was statewide.

What forces were in action within the city and the Commonwealth that allowed for the organization and development of a state-based program of such extensive cooperation? According to Polly Rabinowitz, Executive Director of the Collaborative, "Perhaps the most fundamental factor that contributed to the formulation of the Collaborative was the overriding concern of the city's museum constituency with the educational welfare of its student population. A secondary factor which added impetus to the cooperative movement was the 1975 Phase II Court Order that provided encouragement to businesses and cultural organizations to assist in the education of students in the public schools. Additionally, the critical funds were made accessible to get the program started."

Since its inception, the CEC has acted as a catalyst for partnership between many Massachusetts' schools and cultural organizations, has tallied a long and heady list of facts, programs and services:

- Over thirty cultural organizations offer 130 programs.
- A task force of handicapped people and staff from cultural organizations was established to meet special needs.
- Collaborations between fifteen museums and performing arts organizations and schools focus on career education for students, kindergarten through twelfth grade. This program is more fully described in the section on funding.
- Teacher training programs exist to help teachers and principals in eleven school districts use museums as primary resources for humanities curricula.
- *Culture Connection* is a computer-based system designed for immediate response to questions regarding nearly 250 cultural institutions in Massachusetts. Educators contact *Culture Connection* via a special toll-free number and with the aid of trained consultants receive up-to-date information on curriculum materials, cost, contact person—general information, specifications, or research information.

- Teachers of Agawam, Massachusetts, work during the summer at cultural institutions to develop kits of materials for use in their classrooms.
- A *Guide to School/Cultural Institution Partnerships and Resources for the Boston Metropolitan Area Public Schools*—a resource directory—describes programs developed for specific cultural institution-school pairings.

The most recent publication from the Collaborative, "Creating a Partnership: Museums and Schools," recounts in practical detail four museum-school partnerships that were sponsored by the Collaborative. Each of the four accounts relates substantive programs in schools using science, art and history museum resources. Comments by school and museum faculty gives every indication that solid, and long-term partnerships have been kindled. Write to the Cultural Education Collaborative, 164 Newbury Street, Boston, Massachusetts, 02116. Most publications are free with a small fee for postage and handling.

"Schools Sponsor Office of Museum Programs," Wichita, Kansas

In 1975, as a result of a shift in educational philosophy by the Wichita Public Schools from one of a traditionally structured environment to one of experience-centered education, the Office of Museum Programs was established. The Office of Museum Programs, which operates within the Curriculum Services Division of the schools, coordinates educational programming between the schools and the eight community museums. Teachers had found that museums could provide rich and effective environments for experience-centered learning. However, the schools felt that the community museum staffs required assistance to better respond to the needs of students and teachers.

Dr. Gordon Davis is Coordinator of the Office of Museum Programs. "Community museum staff need assistance in establishing written short range and long range goals. The local school district should help provide expertise . . . in formulating sound goals and objectives prior to . . . programming . . . and emphasize to museum staffs the need to evaluate museum programs (for) relevance to various audiences and cost effectiveness. . . . School districts can help museums . . . design programs which are more accessible."

Within the metropolitan Wichita area, the Office of Museum Programs offers an extensive list of services intended to enhance the schools' use of museums. Exhibit panels of Kansas history are available for school loan. A Mobile Craft Lab introduces 13,000 students each year to traditional crafts. Thirty schools are visited by the Mobile Museums of History and Science in which exhibits change every twelve to eighteen months. A museum technician, one of three members of the Office of Museum Programs staff, designs and constructs the exhibits and traveling displays. Curriculum kits on state and local history are available for senior high school teachers. The Office of Museum Programs maintains a one-room school for use by Wichita teachers

and students and plans to renovate a former school for use as a multidisciplinary museum. Museum programs and services of the Office of Museum Programs are shared with Wichita Public School personnel in a newsletter.

Museum Programs staff meet weekly with museum staff to provide in-kind services, like development of a five year education plan for a museum. They also conduct an annual citywide docent training program and participate in an annual review of the whole collaborative effort. The Office of Museum Programs estimates it provides $25,000 worth of in-kind services to community museums a year.

In exchange for assistance from the school's Office of Museum Programs, the museum contracts to provide representatives to work cooperatively with that office, to provide education programs at no charge, and to train and provide docents and guides for the programs. Davis urges others who might consider a similar venture to develop formal agreements. "Be sure the museum and school system understand the extent and limits of their involvement." Changes in the relationship are reflected in those formal contracts.

"Interprofessional Cooperation Urged," Reston, Virginia and Washington, D.C.

With the trend toward increased specialization in every aspect of human life, it becomes increasingly necessary for educators particularly to become familiar with and knowledgeable about where to find and how to use the expertise and established communication networks of special interest groups, professional and trade associations. While professional museum organizations like the American Association for State and Local History, the various standing and professional committees of the American Associaton of Museums and the Museum Education Roundtable, Washington, D.C., encourage and stimulate the exchange of program information and ideas, museum educators have also been reaching beyond these traditional sources of information for assistance.

Educators in museums are making vital connections with the professional organizations of which teachers, administrators and subject specialists are members. In this effort they are seeking wider input from the various audiences that already use the services and facilites of museums or are potential users. A recent issue of the journal of museum education, *Roundtable Reports* (Volume 5, No. 4, 1980), focused on interprofessional cooperation between art educators, social studies educators, science educators and museum educators. Most of the articles, written by representatives of the various special interest groups, tried to identify the areas of mutual interest and concern and make some broad recommendations about future steps to encourage collaborative efforts. Sounds familiar? It did to Joan Madden, Chief of Education of the National Museum of Natural History, Washington, D.C., whose articulate reply was printed in the next *Roundtable Reports* issue (Volume 6, No. 1, 1980). Interprofessional cooperation—in theory and in the information-gathering stages of program planning—has great potential for generating exciting ideas, exploring varied points of view, and accumu-

lating mounds of informative materials. However, in practice the most successful program model for interprofessional cooperative efforts seems to be the establishment and maintenance of a one-on-one relationship between individual school personnel and museum staff. The efficacy of such a relationship is based on its responsiveness to individual needs and appropriate use of available resources and facilities.

It is incumbent on museum and school educators to lobby for increased support and interest on the part of the membership of their respective organizations and upon funding agencies and foundations in the kind of collaborative programming that has been and is possible between museums and schools, especially at the university level. But this effort should be a reflection of working partnerships and cooperative ventures that are occurring and being refined on a local level.

The following people at the national level can provide more information about local chapters in your area.

- Jean B. Wilson, Managing Editor, *Journal of College Science Teaching*, National Science Teachers Association, 1742 Connecticut Ave., N.W., Washington, D.C. 20009
- Teresa Grana, Associate Curator of Education, National Museum of American Art, Museum Affiliate Group of the National Art Education Association, 1916 Association Drive, Reston, VA 22019
- Paul P. Purta, Executive Director, National Council for the Social Studies, 3615 Wisconsin Ave., N.W., Washington, D.C. 20016
- Susan Lehman, Chairman, Museum Education Roundtable, c/o National Portrait Gallery, Education Office, Washington, D.C. 20560
- Mary Alexander, Chairman, AAM Standing Professional Committee on Education, c/o National Archives, Education Office, Washington, D.C. 20408

Seeking Financial Support

How have others financed museum-school partnerships? What sources are available? Can museum education programs pay their own way?

***"Making Museum Education Programs Self-Supporting: A Marketing Approach to Fund Raising,"* Lisa Farber Miller, Director, Creative Services Division, Denver Children's Museum, Denver, Colorado**

Imagine a museum education program that reaches 50,000 schoolchildren and 100,000 families every year; generates $75,000 ($30,000 net) in annual income; travels to schools, community centers, shopping malls and banks; and requires a staff of only three. Impossible? Not for The Children's Museum of Denver whose traveling educational exhibits are the backbone of its aggressive marketing approach to fund raising. Traditionally museum education programs are a burden for an institution; they rarely produce income after expenses. All of The Children's Museum educational goods and services not only give children and adults the opportunity to learn by doing, but they also provide predictable financial support throughout the year. Approximately 95% of the museum's $650,000 annual budget is internally generated through sales of publications, exhibits, community art programs and exhibits, all directly related to the educational purposes of the museum.

Four years ago Dr. Richard Steckel, the museum's director, began his first day on the job knowing that all three grants supporting the museum had ended. One of the first pledges he and board president Dr. Gail Schoettler made was that the museum would never again be so dependent on grants. They set out to make museum education a profitable venture by meeting the needs of the museum and the business community in a way that had never been done before.

One result of Steckel and Schoettler's pledge to achieve self-sufficiency was the first of eight portable hands-on exhibits devoted to subjects such as

art ("Sensorium" and "Colors To Go"), math and logic ("Figure It Out"), physics ("Scientoyfic"), handicaps ("Like Me Like You To Go"), animation ("Movies To Go") and consumer education. In addition, promotions, creative membership programs, commissioned murals, and publications, including nationally published *Boing!*, all generate income and support the museum.

This essay will explain the five-step process the museum follows in developing money-making educational goods and services. They are:

1. Research and Market Surveys
2. Seed Grants
3. Design for Multiple Use
4. Pricing for Profit
5. Sales: Pre-selling, Networks, and Wholesaling

And analysis of the traveling exhibit program will illustrate each step of the process.

Research and Market Surveys

Once the concept of participatory traveling exhibits was developed, research had to be done to determine who would rent them. Four important questions were asked: who needs, who wants, who benefits, and how much can they spend? Shopping malls, banks and schools were three potential market areas that emerged. Interviews with mall managers, bank marketing directors and school principals revealed that they had needs which exhibits could meet.

Mall managers and bank officials indicated that they spend an average of $1,000 to $1,500 on promotions that meet the following needs:

- to increase traffic and sales or deposits
- to promote awareness of locations
- to provide for the needs of the customer
- to establish a positive community image
- to make shopping/banking fun by providing an inviting and exciting atmosphere
- to uphold the professional image of the mall or bank

A traveling exhibit—one that conveys the fun, excitement, creativity, and learning associated with The Children's Museum—addresses these needs. It provides a mall or bank with an instant promotion that draws people to it, associates the mall or bank with a fine family institution, creates festivities, and provides parents a convenient place to leave their children while they shop or bank.

The needs and budgets of a school principal and his parent/teacher associaton vary depending on the community. Most principals indicated that program and assembly budgets could be tapped for an exhibit ranging in price from $200 to $400. Parent/teacher organizations expressed their willingness to raise community funds to pay for rental of an exhibit. Both groups described their needs to be as follows:

- to provide experiences that enrich and augment the school curriculum

- to demonstrate to the community that they are spending taxpayers' money wisely and cost-effectively
- to find a substitute for the field trip experience that is being eliminated because of transportation costs
- to illustrate to the community that they are leaders in the field of education

A two-day booking of a traveling exhibit with pre- and post-visit materials and an in-service workshop for teachers is a creative response to these needs. Traveling exhibits have proven to be popular additions to the school day, while avoiding the need to transport students. As the cost of transportation increases with higher gas prices, field trips will continue to be eliminated from the school experience. Museums will suffer from lower school group attendance as a result. Outreach programs like traveling exhibits not only enrich school curricula, but also provide cultural institutions with a money-making service, an image-building device, and a creative means to bring the museum experience to the community.

Seed Grants

Research and market surveys confirmed the museum's initial belief that traveling exhibits were marketable. The second step was to get funding to build an exhibit. The museum employs the basic principle of using grants as seed money to finance new product development. All new exhibits and other products are funded by specific one-time grants from foundations and corporations. Operating funds are never used. Foundation officials are enthusiastic about this approach: it gives them the opportunity to see their investment in a product make money through rentals or sales. The $10,000 grant they award for a traveling exhibit provides a service for the community and simultaneously helps the museum maintain self-sufficiency.

Design For Multiple Use

Once funding was attained, it was decided that exhibits would have to be designed to accommodate the needs of a variety of businesses and institutions, including museums. Versatility became another guiding principle of product development. When constructed, exhibits are attractive, sophisticated, colorful and designed to be used by children and adults in museums, banks, retail stores, fairs, schools, community centers, restaurants, and even hair salons. First they are always installed in the museum so they can be evaluated and changes made if necessary. This arrangement also insures that new and exciting exhibits are on display at the museum throughout the year.

Exhibit construction facilitates a multiplicity of uses. Each exhibit consists of several modular units; any of them can stand alone so that one or more units can be rented at once. Assembled together, all the units take up a space the size of a large school room, but they can be spread out in a mall or separated to fit smaller settings. They are constructed of light-weight durable materials that are easily repainted and can be assembled by one person in less than an hour. Complex electronic or mechanical devices are avoided because of their propensity to break down and the difficulty of repairing them on site. When disassembled, exhibits can be crated and transported in a large van or shipped out of state.

Pricing For Profit

The right price is as important as the research and design of an exhibit. A market survey already established the limits for pricing so the next step is to determine the actual cost of a traveling exhibit booking. Expenses include transportation, staffing, supplies, a percentage of museum overhead costs, and maintenance and repairs. A profit margin* of 40% to 60% of the total expense amount should be added to arrive at the correct price. If this price (including the profit margin) exceeds the amount the market can bear, then expenses must somehow be eliminated or the exhibit will no longer be cost effective.

Different rates should be set for non-profit organizations and for-profit businesses. The Denver Children's Museum presently charges $330 for a two-day school booking. The same exhibit costs a mall $660 per day, but proportionally less for more days. Rates should be flexible to allow for a range of prices depending on the number of days involved, and how many exhibits are booked. An ample profit margin will allow for discounts and any unexpected expenses.

Sales: Pre-Selling, Networks, and Wholesaling

Even before an exhibit is built it must be sold. Schools, shopping malls, and many businesses allocate program and promotions budgets a year in advance. If the museum waited to sell an exhibit or publication until it was complete, it would lose up to a year of income. A good salesperson can use concept drawings and models to explain an exhibit to a principal or mall manager. "Colors To Go," the first museum exhibit for schools, had forty school bookings before it was constructed.

Those first school bookings resulted from one sales presentation to school principals at their monthly meeting, followed by personal telephone conversations. One presentation produced $13,200 worth of bookings because the existing network of principals was utilized rather than making individual visits to each principal. Using existing networks for sales of all products is an important sales technique. Other networks for exhibit sales include monthly meetings of parent/teacher organization presidents, community service clubs, and developers of shopping malls.

Wholesale prices for rentals of several exhibits is another important sales tool. A discount price can induce a developer to rent exhibits for all his shopping centers. Wholesale prices can also be offered to corporations who wish to sponsor exhibits at schools or community centers as a community service. For instance, a restaurant in Denver sponsored (at the museum's suggestion) twenty days of exhibits in the schools surrounding the restaurant because they wanted to improve their community image. Once again, one sales call, offering a 50% discount for multiple bookings to the restaurant's marketing director, resulted in $3,300 for the museum and free bookings for ten schools.

Conclusion

If this five-step process is followed, traveling exhibits—and all museum education programs by extension—can provide museums with a multitude of

* N.B. The "profit" from traveling exhibits returns to the museum's coffers to offset operating costs of the entire institution; there is no surplus at the end of a fiscal year.

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benefits. In addition to the income generating, image building, and outreach opportunities already mentioned, an exhibit provides excellent public relations. Traveling exhibits at bank openings are instant media events that focus the public's attention on the museum and the bank. Nonetheless, the public relations benefits alone are not enough to justify the expense of an exhibit, and museums must be careful not to give away their valuable services. Exhibit income also provides a stable cash flow because exhibit bookings create predictable and measureable income. Budget projections can more easily be made when one knows that nine months a year, three times a week, exhibits will be rented by schools, and that in August and December shopping malls will rent exhibits for back-to-school and holiday promotions. Last, and more important, the income generated by traveling exhibit rentals allows a museum to diversify its income base and thereby operate independently from the restrictions and uncertainties imposed by grants and donations.

"We have an eight-year-old Environmental Science Program. Originally, it was just a twenty-four week program of lessons concerning the various aspects of the natural world.

Over the last several years we have modified and adapted the program to fit a variety of curriculum needs. The school systems contract the Museum to teach their science. . . .

We have worked our way into different school systems by a variety of routes. In some schools, the teachers have requested our program. We do a lot of in-service work with the various schools. This helps spread the word with teachers. In other schools, the principals have asked us to start our program.

There are no short cuts. It is simply a question of establishing a program which is highly regarded by the community and being flexible enough to offer it to each school. Our program does not pay for itself—there is no way the schools can afford it. In a sense, the members of our museum subsidize our school program."

Robert Prescott, The Cape Cod Museum of Natural History, Inc.,
Brewster, Massachusetts

"Supporting Science and the Schools," Seattle, Washington; Hartford, Connecticut; Brooklyn, New York; and Atlanta, Georgia

In four cities across the country, an important source of science instruction is the local museum or science center. Through contracts with or grants from towns and state or local boards of education, these four science institutions are legally bound to provide instruction, and can predict accurately income and attendance which allows for sounder program planning.

In the Northwest, the Pacific Science Center in Seattle supports its school services with participant fees and state funds under contract with the Superintendent of Public Instruction. The formal, written contract specific-

ally outlines responsibilities of the Center and the schools. The Center's services are carefully delineated in hourly rates of pay. The Center must also maintain an advisory committee comprised of representatives of the groups serviced and provide an annual report to the schools. The Superintendent of Public Instruction, with whom the Pacific Science Center formed the agreement, must simply pay amounts stipulated at regular and periodic intervals. The Center performs its duties as an independent contractor of the Superintendent. The schools have nonexclusive rights to reproduce, distribute and implement materials developed at the Center.

Further east, in the city which is home to many national insurance companies, the Children's Museum of Hartford, Connecticut, inherited a casual arrangement between the local cities and towns and the museum. In the past, support agreements had been arranged and based on the number of students who attended museum programs and distance from the museum, among other factors. It was decided by a committee of trustees and the administrative director that the present support system, based on the individual towns' tax base, would be put into effect to maintain the school services programs.

Representatives of the museum approached the principal executive officer of the nearby cities and towns which had historically supported the museum. Arrangements for meetings with appropriate official or budgeting body were scheduled to review their past support and renew it based on the new formula.

The city or town is required to pay a fee based on its "grand list" or tax base in order to have its students and teachers participate in programs and use services at the museum at no additional cost to the individuals. If the city or town does not pay the entire amount, selected services and programs are only available to them under the rate structure (per capita) established by the museum for non-supporting towns. A city or town may also choose to pay a lesser fee and receive supporting town benefits for only the first 1,000 students who visit the museum. Any students over the first 1,000 must pay the full rate of a non-supporting town. Programs for non-supporting groups may be reserved at the museum at rates of $1.25 per child the first program; $1.05 for the second program and $1.00 for the third program (costs are estimated for the 1978-79 school year). The host towns of Canton and West Hartford pay an additional fee if the museum attendance records show that because of their proximity they make greatest use of the museum facilities and bring more than the anticipated number of students in a given year.

Supporting cities and towns designate an ex-officio member to the Board of Trustees of the museum and thereby gain access to program development and services. New contacts with city councils are made by members of the museum administration and trustees. Inquiries from teachers and other individuals in the communities are turned over to the same personnel who contact appropriate city officials to make arrangements for "supporting town" agreements.

Sally Chabot, Director of Education at the Children's Museum, emphasized the need for the museum to keep accurate attendance figures for visiting town groups. "When we send the town official a proposal in January, we have a strong argument for pre-paid support for the coming school year. The proposals are always followed-up by a call from our museum repre-

sentative. The final support arrangements, usually a portion of the town's school budget, are expected to be complete by July (end of fiscal year for many cities and towns) for the following school year."

The museum is the fifth oldest children's museum in the United States and the affiliated Roaring Brook Nature Center has access to over six miles of trails, 115 acres of woods and is the outdoor laboratory of the museum. The exhibition offerings include changing planetarium shows, saltwater aquariums, live animal collections with demonstrations and American Indian artifact collections. The programs available to teachers and students are designed to be experiential—teacher workshops, consultations and instructional materials and supplies that can be used at the schools, as well as loan boxes and teaching aids. The education staff of the museum and the nature center, which has an additional contractual arrangement, are eager to work with teachers and students to develop individualized programs.

The Director of Education also noted: "Support arrangements with cities and towns which are renegotiated on a yearly basis do restrict access by students and teachers during tight fiscal years, especially when town officials consider the additional transportation costs involved beyond those fees paid to the museum." A private foundation assisted the City of Hartford maintain its museum-school program when the city was forced to stop its financial support of the museum in 1974-75 due to economic pressure. Visits to the museum from the City's schools had stopped. At the same time the museum was suffering from equally pressing economic problems due to an urgent need to modernize program facilities. Private funding in 1978 provided the necessary income to the museum, allowing the museum to develop new programs and renovate program facilities and the longstanding relationship between the school system and the museum which neither party wished to see die during hard times was upgraded. The program content was relevant to the Hartford school curriculum, but broad enough to include all grade levels and leave the museum with three fully developed programs to offer other schools as a result of this cooperative museum-school three-year foundation-supported initiative. The foundation which supported the program provided an estimated $94,000 for the program.

At the Roaring Brook Nature Center, which services about 6,500 students a school year, individual contracts are set up at the beginning of the year with specific school systems. The school systems contract for the staff naturalists to come into their classrooms a specified number of hours during the school year based on an hourly rate. (This contract approach is handled by the Children's Museum which is the parent organization of the Nature Center.) Jay Kaplan, Naturalist Director, remarks, "The naturalists also go into many other school systems and do one-time-only assembly programs for the entire student body or for specific grade levels as well. In other cases, PTA groups fund a limited number of hours in certain schools. Some schools pay as they come."

Kaplan adds, "The initial contact is always a key component in development of our collaborative efforts. There must be a certain commitment or motivation on the part of the school community. Frequent contact with teachers is one way in which we maintain that collaboration. Teacher workshops held on school in-service days are another. And keeping in close contact with the assistant superintendent in charge of curriculum is a third."

In Brooklyn, New York, Community School District 22 has housed and administered the School-Ecology Center since 1970 when it opened the Center with a three-year grant under Title I from the then Office of Education. At that time, there was a minimum of environmental education taught at the elementary level. School educators felt a need for junior high school students to learn about man's role in a *balanced* ecosystem, as well as environmental imbalances like pollution. The plan evolved into a resource center. The District 22 Ecology Center is now located in a suite of three rooms donated by the school district and includes an indoor laboratory and four simulated habitats.

Once federal and state funds ran out, parents and the community with support from the Museums' Collaborative undertook the maintenance of the program. The Collaborative, a non-profit organization, provided three-year funding for the Ecology Center and four other centers to work in cooperation with established cultural organizations to develop curriculum materials.

The community school district picks up the $1,200 operating budget and the salaries of the three staff (including one teacher/director and two education assistants) and provides space for the Center. The Center raises approximately $500 additional funds a year.

Doris Hazelcorn, the Center's first director, now retired, recounts her early efforts at collaboration. "As a school person, I initiated the contact. Museums have collections and people with expertise which we needed. I visited the museums during the summer when the people in the education departments had more time. I found one key person in each institution who was excited about the project. Many hours were spent planning, visiting and working out relationships. I phoned and visited to maintain our relationship with the museums. I edited their lesson plans to make sure they were realistic for use in the schools."

When asked if all teachers in the district use the Center and the other available resources, current director Gary Frey, said, "Yes, dedicated teachers do. Getting teachers released time is difficult. Each teacher participating in the Ecology Program must attend at least two after school workshops. One of these sessions is held at an out-of-doors site like a beach or a forest."

District 22's Ecology Center is one of a cluster of five resource centers. Their brochure, "Five School Resources and How We Grew," advises: "First there was a committed teacher who did not hear 'no.' That teacher found another committed teacher. Together they found a principal. And an idea was born. Then others began to contribute to that idea."

During the late 1960s, with federal funds under Title III and local bond money science programming for local schools was initiated in Atlanta, Georgia and the Fernbank Science Center was created. After federal monies dried up, the Science Center's Board of Trustees negotiated a long term lease with the Board of Education to use the school land on which the Center is located. Today the Board of Education supplies the operating budget of over $2 million to maintain the facility and programs for county schools.

When asked if she thought this was rather an uncommon partnership, Kay Davis, Director of the Fernbank Science Center said, "It's probably the only arrangement of its kind between a school system and a science center. Three factors contributed to the development of our arrangement. First, the programs met a real need and were *demanded* by teachers and administra-

tors. The arrangement has proven to be a help to the schools, teachers and administration. Second, as schools move into a quarter system, the tremendous pressure on teachers to complete studies are increased. The Center really assists the teachers to do their job and fulfill their teaching responsibilities in science effectively and efficiently. And finally, in our county there are many people and industries related to science. The community has a background, understanding and acceptance of the role of science in their lives and the lives of their children. There is very strong community support through the school system to fund Fernbank."

"Science Beyond the Walls," Rockville, Maryland and Philadelphia, Pennsylvania

Separated by the Mason-Dixon Line and several miles, two institutions, a school and a museum have begun similar efforts to reach beyond their respective walls to put elementary and middle school students in touch with science resources. One, the Gifted Science Project of the Montgomery County Public Schools, Rockville, Maryland, has three years of support from ESEA, Title IV, C. The other, the Science Enrichment Service of The Franklin Institute in Philadelphia, received money from the National Endowment for the Arts.

The school project, begun in 1977, collected, organized and classified science resources in the metropolitan Washington, D.C. area. Project resources include the Smithsonian Institution's Museums of Air and Space, Natural History, American History, plus the Zoo and associates seminars and programs. They were then correlated with county-wide science instructional objectives, and placed in a microfiche retrieval system. During the second year, the system was installed on a trial basis in fifteen public schools and one parochial school. Approximately one hundred school staff and twenty-five museum staff were involved. Students and teachers learned how to use the system and resource bank. As a result of use and evaluation, project materials and services were revised in anticipation of the third year, 1979-80, when the resource materials were made available countywide.

Dr. John R. Pancella, Coordinator of Secondary Science and Project Director, recounts the reasons for and organizational history of the school initiated effort. "Parents, teachers and students are constantly searching for resources that meet the needs of gifted and talented in science. Sources are available, however, they are not generally known or they are not suitable for youngsters. The Gifted Science Project was proposed to meet these needs and to code the resources to the local school system's grade levels, topics and objectives of the grade three through eight curriculum. The services, expertise and facilities available from museums cannot be duplicated in the schools. Gifted and talented students need to associate with intellectual persons in the field of their interest and motivation.

"We contacted the museum or the resource personnel by telephone and then in person. One resource person often led to another. The information in the Project Resource File would not be as accurate and the project's function would not be clearly understood without that personal contact.

"The museum-school collaborations take place at the museums. Parents provide transportation to sites away from the schools."

The project's total funding for the three years is $250,000. Pancella points out that other school systems would not need to duplicate all of the development, tryout and evaluation to replicate this museum-school cooperative effort. "By the end of our project, the products will include a project history, examples of the types of correspondence to use, and the procedures that worked and those that did not work for this project. These and other project materials should allow another school system to prepare a similar resource file without three years funding and without a staff of five persons. Close personal attention is necessary by the project staff to help school staff begin to use the Project Resource File. We provided funds in the budget for teacher released time for in-service training of target school staff on how to use the Project Resource File. The project evaluative studies will provide additional data on the training that worked well, did not work, or is needed in addition to that already given. Budget considerations should include funds to purchase print and non-print materials for schools that do not have them. No funds are needed for the museum-project collaboration other than the staff time to arrange for the resources."

The second effort to extend science beyond an institution's walls occurred at The Franklin Institute in Philadelphia and was directed toward middle school teachers and their students. Daniel Goldwater, Director of Museum Education at the Institute, notes, "The 'Science Enrichment Service' was initiated by us. We saw a need for teachers (especially new science teachers) to have materials that they could cope with. We feel that most teachers have neither the resources nor the time to develop significant science experiences related to a museum visit."

Commenting more fully about the program's audience, Goldwater says, "We find that teachers have a lack of time, a lack of science background, and a fear of science. 'Science Enrichment Service' grew out of requests from students and teachers for learning-materials that would allow them to continue working, in the classroom, with ideas that they first encountered in a museum exhibit or program. Through this program, we have made materials easily accessible and non-threatening. We can serve teachers and students better, in a cost-effective way. We can provide a deeper experience for the students than they can get in one visit at the Institute."

An initial grant from the National Endowment for the Arts, with matching funds from local foundations and the museum, provided the basic funds for developing, pilot-testing, designing, producing and disseminating a number of kits for use in classrooms. "For our initial development, we looked at museums with science kit programs that were available to schools. No museum contacted had a program that sold kits to schools, but many had kit rental programs. The experience of these museums was helpful in verifying whether the topics we had chosen were appropriate subjects for science kits, and in ascertaining what kinds of materials and activities worked well in kits. Proto-kits (comparable to the rough draft of a book manuscript) . . . on visual perception and papermaking and printing were tested by approximately five hundred students in a variety of public and private schools. . . . Students between fifth and seventh grade used the kits and filled out evalua-

tions, their teachers also filled out evaluations. . . . The generally positive response was highly encouraging. The negative responses were carefully examined and guided us in simplificaton of the content, text and illustrations in the final design. *Probably the most important single thing we learned from the evaluation was that we should not try to cover too much ground in only one kit-unit.*" (Emphasis added.)

All Science Enrichment Service kits from The Franklin Institute are comprised of the same basic items: a poster which summarizes the kit's focus; sets of worksheets, enough for thirty-five students; a teacher's guide with instructions and background materials; and special materials that cannot be obtained easily and cheaply, like wood pulp for the *Papermaking* kit and punch-out geometric models in the *Flat to Solid* math kit.

Goldwater points out that the format "will enable us to market kits in the $5.00 to $7.00 range (fifteen to twenty units per student). . . . The sale of workshops and materials should make the program self-sustaining. . . . We are also investigating ways to market Science Enrichment Service kits, both to individual teachers and to school systems as a whole. Versions of each kit edited for family use are being planned for sale in The Museum Store."

The education staff of The Franklin Institute is optimistic about the usefulness and fiscal soundness of its Science Enrichment kits. Goldwater concludes, "The 'Science Enrichment Service' is a supplement to the ongoing educational programs at The Franklin Institute. It. . .has satisfied the original goals of the project: teachers are enthusiastic about being able to take something from The Museum back to the classroom so that their trip to The Museum is enhanced in a concrete and educational way; the low cost of the kits makes them available to schools with limited budgets; and finally, teachers without science backgrounds are comfortable working with the kits and teaching from them. . . . We . . . look forward to the time when 'Science Enrichment Service' is self-sustaining and the sale of kits finances the development of new kits."

"Schools Provide Museum Teachers," Philadelphia, Pennsylvania; Baltimore, Maryland; and Washington, D.C.

For the past sixty years the Museum Education Division of the Philadelphia school system has provided curriculum-related lessons in seven Philadelphia museums to students from the public schools. Twelve certified, experienced educators, with support and assistance from one full-time secretary and one program director at the Board of Education, work in the Academy of Natural Sciences, Afro-American Historical and Cultural Museum, Civic Center Museum, the Franklin Institute, Independence National Historical Park, Philadelphia Museum of Art and the Philadelphia Zoological Garden. The Museum Education Division works with the libraries, artifacts and exhibits in each museum and consults with the professional museum personnel to develop and implement programs.

Programs are tied to the school curriculum and intended for all students, kindergarten through high school, including physically and mentally

handicapped, emotionally disturbed and academically talented children. This staff of twelve teach about 15,000 students per year, in classes which last from one hour to one and three-quarter hours. The Division has also developed an in-service course for public school teachers, "Museum Education for Classroom Teachers." Participating teachers are eligible for two in-service credits for a master's equivalency which is approved by the Pennsylvania In-Service Council.

The professional staff of the Museum Education Division are a natural liaison between the museums and the schools. In addition to conducting the classes for students and teachers at the museums, the Division sends out a catalogue of available services twice each school year to over 280 locations. They circulate and publish a monthly newsletter, "Museum Highlights," to all school locations, as well as maintain and follow-up on all classroom teachers who have visited the museums during a recent school year.

The program was initiated by some far-sighted educator in the 1920s and is maintained because of the school system's firm belief that museums offer rich sources of materials that can provide excellent and necessary educational experiences. The School District of Philadelphia picks up much of the $350,000 per school year budget in terms of professional staff salaries and supplies. Each of the seven museums supplies classroom and gallery space and time, heat, lights.

According to Al J. Cunningham, teacher at Independence National Historic Park, "Transportation to the museums and recent school district budget cuts for programs are our foremost concerns. We have addressed these limitations by investigating, identifying and informing teachers about reasonably priced private transportation and the use of public transportation and have maintained a continuing education program for the public at large emphasizing the importance and need for the continued operation of the Museum Education Division. I would like to see some of the museum lessons which are now optional be made a requirement as part of the teaching and learning process on some of the grade levels."

A bit further south there exists a variation on a similar theme. For the past fifteen years, the Baltimore County Public Schools have provided the students in grades six through twelve with the services of a museum art teacher. This representative provides museum tours primarily for sixth grade students in both the Baltimore Museum of Art and the Walters Art Gallery. The individual works autonomously in both museums, but occasionally uses the docents to assist with the programs when class sizes are large. The program is very low key and persists probably through the efforts of the one individual who has been doing the program for the past fifteen years.

And still further south, the District of Columbia Public Schools recently made available to the Capital Children's Museum a Museum Community Coordinator. This person plans and coordinates school group visits to the museum, serving a liaison role between the schools and the Children's Museum. Unfortunately, like the Baltimore program, museum administrators, insecure about the program and in light of budget cuts, are unwilling to publicize or fully exploit the potential of this arrangement for fear of community reaction in opposition to the situation.

Museum-School Fund Raising
Dennis, Maine and Yuba City, California

History News reports of two fund raising projects which relied on museum-school collaboration. "The Dennis, Maine, Historical Society sponsors periodic guided bike tours through the surrounding countryside. A committee of two or three members chooses the routes, usually about two miles, and prints and distributes maps with brief explanatory notes about historic sites along the way. When the cyclists stop at these points of interest, speakers with particular knowledge of a site are on hand to explain its historical significance. For example, on a tour through the South Dennis Historic District, a school teacher tells the history of the Dennis Public Schools . . . . The riders end the tour with lunch at a nearby riverside picnic ground.

The only cost of the tours, each lasting about two hours, is the printing of the maps. This is done in lots of one thousand with distribution to inns, motels, bike rental shops, and the Chamber of Commerce so that visitors to the area can take self-guided tours on their own."

And "Working with a retired teachers' organization and the high school Regional Occupational Program printing class, the Community Memorial Museum of Sutter County, California published a coloring book which touches on the geography, wildlife, early settlers, and historic sites in the county. Fifteen hundred copies of the publication were purchased by the county school district and will be used in a third-grade unit on local history; additional copies are on sale at local stores and at the museum, 133 Butte House Road, Yuba City, California 95991."

"Cultural Vouchers Fund Others," New York, New York

Museums Collaborative, Inc., a private, non-profit service organization, was founded in 1970 to promote broader public understanding and use of cultural resources in New York City. An articulate and concise history of the Collaborative through the mid-1970s is available in Chapter 4, *The Art Museum as Educator*, edited by Barbara Y. Newsom and Adele Z. Silver.

Initially Museums Collaborative gave direct grants to museums to develop programs for seldom-served audiences. Many of these were good programs, but did not meet the needs of the intended constituencies and were not always well-received by local community organizations. The Collaborative then provided community organizations with funds to purchase programs of their choice from the museums. A Collaborative study reports that the ". . . programs that resulted were educationally sound and as effective as the museum-originated programs, but we occasionally found that community organizations had used the money not only for cultural programs, but also for other purposes when funding emergencies arose.

"The ways in which these two efforts succeeded and failed led us to a new approach. We were convinced that community organizations should maintain control over the program content. . . . But we would devise an accounting system that would allow Museums Collaborative to reimburse mu-

seums directly for the programs and services they provided, thereby eliminating the need for bookkeeping by community groups. The system we eventually designed, called a voucher system, was flexible enough to allow for a wide variety of interests and philosophies, but maintained adequate administrative controls to assure fiscal accountability."

An advisory board composed of museum directors and community leaders was established early on to handle disagreements, set policy, choose participants and allocate funds.

Since 1974, the Fund for the Improvement of Post-Secondary Education (FIPSE) of the federal Department of Education has awarded two three-year grants for the voucher system specifically. Although requests for the third grant have been refused, FIPSE has provided funds for dissemination of information about the Cultural Voucher Program. The voucher program is now funded through a variety of sources—National Endowment for the Arts, New York Council on the Arts, assorted corporations and foundations, and the U.S. Department of Education. The recent three-year award from the U.S. Department of Education will permit application of the voucher program to New York City public schools and museums.

Statistics from a recent evaluation report show that 1,500 separate projects were undertaken by eight cultural institutions and thirty community groups between September 1975 and August 1979. Project costs ranged from five dollars to $4,500. Figures indicate that community organizations did not tend to purchase existing museum programs, but rather develop new projects with an education focus and shop for services. Most organizations made economical and creative use of the city's cultural institutions. For museum educators, the voucher system provided a laboratory in which to test the effectiveness of education programs with new audiences.

By January 1981, the Collaborative staff expects the New York State legislature to have given approval for the State Department of Education to replicate the voucher program in four regions of the state. Several other cities have sought advice to apply the Museums Collaborative's Cultural Voucher to their situations.

One publication of Museums Collaborative is the Bread Game, a calendar of federal funding deadlines listed in chronological order, with agencies' addresses and phone numbers, special preliminary procedures and divisions that accept applications year round. Copies of the Bread Game are available from Museums Collaborative, Inc., 15 Gramercy Park South, New York, New York 10003.

"Cultural Organizations and Career Education," Boston and Springfield, Massachusetts

Since 1974, the Cultural Education Collaborative (CEC) has helped cultural organizations build partnerships with schools and community groups. The CEC is a private, non-profit organization which provides program planning, fund raising and training assistance to both partners. The Collaborative has offices in Boston and Springfield, Massachusetts, and has received funding support from private foundations, the National Endowments for the Arts and

Humanities, the Massachusetts Department of Education and the Commonwealth's Council on the Arts and Humanities, plus the former U.S. Office of Education.

One program, "Middle Schools Career Education Project," is funded by Title IV, C of the Elementary and Secondary Education Act. In a CEC publication, the Project Director, Stephen Marcus, relates the project's history.

"In the fall of 1977, people from fifteen museums and performing art organizations in Boston and Springfield . . . met together to begin work in a training project designed to acquaint them with the overall objectives and trends in career education. The project was also aimed at helping them look at their institutions as vibrant, important resources capable of broadening the work perceptions of students in K-12. After compiling brief 'people profiles' of their places of work, each cultural institution, in conjunction with a partner school, piloted a career education program during the spring which utilized their physical and personnel resources. . . . The projects were modest efforts by design, but, since they were uniquely created by each institution-school team, they represent models from internships to simulations to mini-courses."

Based on particular interests and needs, each cultural institution was paired with a partner school. For instance, the Boston Zoological Society, with a staff of sixty-six, worked with the staff and children at Chittick Elementary School to develop a career education program that would let students experience first-hand, as much as possible, the jobs that exist at the zoo. Five sessions were held for twenty-five fourth graders. Two sessions were at the zoo.

While all cultural institutions had prior experience planning multi-session programs with schools, few had previously planned programs focused on career education. The CEC staff recalls, "One of the most significant points that became clear during this phase was the importance of alloting for extensive, unharried planning time."

Two participants from cultural institutions further emphasized that point. "Careful planning is important from all points of view, but since this sort of program, where children were allowed to invade the 'sanctity' of the working area, was an innovation, I was very careful to do some advance public relations work within the Museum . . . to avoid any negative repercussions. I wanted this to get off to a good start . . . and I believe that we have made an auspicious beginning in that direction."

A second participant reports, "I was surprised to find so many people at the Museum with a real interest in being a part of this program, albeit a limited part. I had considered them too busy at their own jobs to have time or interest in an elementary school career education project, and I was pleasantly surprised to learn that this wasn't generally true."

The CEC staff further advises that during the program it is important to maintain an open channel of communication among all participants and that it is helpful to have a specific strategy for involving administrators, teachers and parents. Coordinating successful programs between two major institutions, like schools and museums, demands close supervision.

The Collaborative staff concludes, "When a twelve-year-old student, after spending several days working on a museum project, declares, 'I didn't even know how to spell paleontologist a few weeks ago, and now I think I

may become one!' you know that at least another door to the future has been opened. Whether or not those students go on to pursue these careers is beside the point. The fact that their world of possibility has been expanded is of great importance."

The Cultural Education Collaborative has documented its Career Education Project in a series of three well-written, very useful handbooks: *A Look Behind the Scenes, Pilot Projects,* and *Designing Programs and Looking Ahead . . . some recommendations.* Copies are available from the CEC, 164 Newbury Street, Boston, Massachusetts 02116. Most of their publications are available free with a $1.00 postage and handling charge.

"What ED Offers the Museum," Kathy Bell and Mary Kahn, Education Program Specialists, Institute of Museum Services, Washington, D.C.

In spite of the complexities of institutes, agencies and bureaus, the newly formed Department of Education (ED) offers a museum many practical possibilities to obtain funds as a non-profit, educational organization. Before attempting to negotiate the Department's organizational maze, a museum's administrators should seriously ask themselves three questions:

1. What are the specific priorities, project goals and objectives of our institution or department?
2. To what extent must the institutional priorities, goals and objectives be modified to meet the criteria of the funding agency?
3. Where must we stick to existing priorities?

Once the museum's administration has a clear sense of its institutional goals and program objectives, it can begin to develop a continuing dialogue with appropriate ED personnel. A museum seeking funding for an idea should not hesitate to establish direct contact with possible funding agencies. The agency's program personnel can describe its current policy thrust, interpret its guidelines and suggest other possible sources of funding and information within the department or other federal agencies.

Few federal agencies realize the sophistication and quality of the education programs that museums are presenting. For museum personnel who seek funds from ED, it is essential that their proposals be explicit about the potential for educational change, include a clear statement of goals, and be backed by hoped for results, like plans for evaluation of change in learners.

The Institute of Museum Services in the Department of Education is the only federal agency created exclusively to assist museums. The Institute was established to assist museums of all disciplines in maintaining, increasing and improving their present activities and services. Two types of assistance are currently offered by IMS. First, General Operating Support grants provide assistance for personnel, security, maintenance, administration, and related operating costs. Second, and obviously more relevant to museum educators, Special Project Support grants, representing less than 25 percent of the Institute's grant funds, provide assistance for exemplary projects addressing problems common to museums. In this category, special consideration is given to proposals for long-range institutional planning, for collabor-

ative projects between local educational agencies and museums, and conservation.

Recognizing that IMS funds are limited, and that from a distance the Department of Education seems forbidding, we have outlined some of the grant programs in the Department for which museums are eligible to compete for funds along with other non-profit organizations. Generally within the Department of Education, program emphasis is described in four broad categories: content or subject area, audience served, methodology or facilities. Brief descriptions follow of the various programs within the four broad categories as they relate to museums.

To be eligible for funds in the *content or subject area*, programs must focus on the teaching and learning of the basic skills, mathematics, science or social studies. Many programs within this category that have particular relevance to museums are in the Office of School Improvement. For instance, the Arts in Education Program encourages the establishment of arts education programs at elementary and secondary levels, and stresses cooperation between community resources, including museums, and state and local education agencies. The Ethnic Heritage Studies Program supports projects which provide students with opportunities to learn more about their own cultural heritage and to study the contributions of other ethnic groups of the nation. The Environmental Education Program provides support to projects that improve public understanding of environmental issues as they relate to the quality of life. Other funding possibilities within this category may include Law-Related Education, Metric Education and Basic Skills Improvement.

In the *audience or population served* category, agency emphasis is directed toward special groups which are usually divided into three sections—age (pre-school, elementary, secondary or higher education), location (center-city or rural), and special needs or interests (handicapped, gifted and talented, minorities including Black, Asian, Indian, Hispanic). Specific programs in this category may include Early Education for Handicapped Children, Handicapped Children's Model Program, and the Bilingual Education Desegregation Support Program.

Although museums are technically eligible for these grants, they face active competition. In many of these programs, a request would be stronger coming from a state department of education or local education agency and might include specific services contracted to a museum.

A variety of Department of Education programs focus on *how* a program is done, on methodology. Grants are available for teacher training, for certain types of media production and for research projects. For example, a museum might propose a study of how students learn in nontraditional, or nonschool settings. Some sources to explore include the program for the Improvement of Post-Secondary Education which encourages education reforms in teaching and learning on the post-secondary level; the Desegregation Assistance programs to promote integration; or Personnel Training for the Education of the Handicapped.

A museum interested in sharing and disseminating information about already existing model education programs may want to contact the National Diffusion Network (NDN) in the Division of Educational Replication. The goal of this ED program, established in 1974, is to enable widespread adop-

tion of proven programs rather than simply disseminating information regarding these programs. Museums are encouraged to submit evaluated programs to the NDN Joint Review Committee to become eligible as Developer/Demonstrator programs. The Developer/Demonstrators that are validated by the panel can compete for dissemination funding if the present limited capacity of NDN increases. Unfunded validated programs will be listed in the NDN program catalogue, but adoption expenses must be borne by the adopting site.

The State Facilitators Project, located in all states, the District of Columbia, Puerto Rico and the Virgin Islands, provides information to educators about over 200 identified programs designed to meet critical needs shared by educators. The State Facilitators assist schools and related agencies in selecting and funding appropriate demonstration programs. The Facilitator for the District of Columbia recounts sample programs that relate to arts and museum education. "For example, Learning to Read Through the Arts, an intensive, individualized reading program presented through the arts, was originally developed for Title I eligible middle school students in New York City. The twenty-eight week program involves reading and art teachers as well as specially trained professional artists. In its developmental site, the program was closely associated with major cultural institutions in New York City, like the Solomon R. Guggenheim Museum, the Staten Island Children's Museum, and the Queens Museum." For the name and address of your State Facilitator Project, and further information about the National Diffusion Network, write or phone the Division of Educational Replication, 400 Maryland Avenue, S.W., Washington, D.C. 20202; (202) 245-9582.

Finally, those museums with strong education programs and affiliations are eligible to acquire government properties through the Federal Real Property Assistance Program. The properties available may consist of land, buildings, or land and buildings. Such properties may be used by eligible museums for storage, exhibitions, classrooms or offices.

This brief overview of Department of Education programs is intended to suggest possibilities for museum funding. A complete list of Department of Education programs for which museums are eligible is now available from IMS, 330 C Street, S.W., Room 4006, Washington, D.C. 20202. The list gives the names of people to contact and grant deadlines. Further details can be found in a variety of publications or can be obtained from individual ED offices. Some of the more comprehensive pubications which offer current information about federal programs are: *American Education*, the magazine of ED, which annually publishes a pull-out guide to Department programs; *The Cultural Directory* (second edition), published by the Federal Council on the Arts and Humanities and covering a broad range of assistance programs; *Catalog of Federal Domestic Assistance*, published annually by the U.S. Office of Management and Budget and available at most large libraries. The catalog has current information on all federal support programs.

Even in this time of tightening federal budgets for all programs, grant monies are available for well-thought out projects with sound budgets. A variety of funding sources is particularly available for collaborative museum-school program efforts which make full use of the resources of both these education resources. The challenge, to both the museums and the schools, is

to cooperate creatively to further educational goals and to actively seek funding from a variety of sources.

Bell and Kahn's report on the state of federal program support for museum-school partnerships is current as of late 1980. By the time this sourcebook is published, their report may require considerable revision. The Editors

Looking Elsewhere

What other sources and resources are available? Where is there additional information?

Selected Annotated Bibliography

The following publications will provide additional information about museum-school collaborations. Reviewers were Jody DeVoll, Elizabeth Gilbert, Kim Igoe, Earl James, Susan Lehman, Nancy Rosenblatt and Kathy Williams.

American Association for State and Local History. *Education: School Programs and the Museum.* AASLH: Nashville, TN, 1980.

In this independent study course produced by AASLH, *Education: School Programs and the Museum*, the student will find a comprehensive survey of program issues and examples pertinent to the field. The presentation and materials selected appear to be well considered, providing a variety of points of view, yet coming down unequivocally upon *interpretation* of artifacts and documents as the primary objective of the educator—which of course it is. It is also what differentiates the museum from the warehouse, and the authors of the course underscore that point in the beginning with a discussion of the fact that a museum makes an interpretative decision when it decides what to collect.

This is just one of several philosophical statements made along the way to provide pegs on which to hang a considerable amount of well-sorted information. In general, this approach seems to work well as the student works his or her way through topics ranging from "Stages in Intellectual Development" (Piaget), to "What Others are Doing" (students using their community as an historical resource).

As in any good survey course, the student is introduced to all possible facets of the subject—but just introduced. Add this to the fact that this is a correspondence course which attempts to teach people how to teach others

in a specialized environment, and a host of questions arises:

- Who will the students be?
- How sensitive and directing can the correspondence be between student and instructor?
- Will the student be unwittingly pitting her or himself against a curator/director of the historical agency who takes a dim view of education?
- Will the student become an instant expert, with all of the abrasive shallowness of such creatures?

The authors have posted signs along the way warning the students about many of the pitfalls of only scratching the surface of this subject, and of the potential institutional barriers an educator often encounters.

In addition, AASLH emphasizes that the instructor may not only comment upon the ten written assignments, but will assign "additional readings, activities, or observations which help tailor the course to the student's own needs and institutional setting."

These warnings and safeguards notwithstanding, however, I do feel that this course would be used best in a group setting, with an experienced professional educator acting as convenor. This might well be possible to carry out in a state or an area of a state with several historical agencies within reasonable driving distance. The small group approach would provide an often needed support system for educators in small institutions, and would significantly enhance the educational value of the course in the process by the cross fertilization which comes out of a small group working together. In addition, AASLH has generously offered the course to four persons for the price of one! The use of this course should be considered by regional education associations looking for ways to provide services to their constituents.

Given the budgets and staffing of most historical agencies around the country (and there are thousands of them) there is little doubt that a significant need exists for this kind of course, and this is a good one. But what happens after the student completes this introductory course? Can we depend upon stimulated curiosity to carry the student into further training? Or should organizations like AASLH, the Museum Education Roundtable, Washington, D.C., the Education Committee of the AAM actively follow up with the students through regional meetings, newsletters, etc. to encourage more study, or provide them with workshops?

In general, it should be stated that the materials presented in the course packet are good, with clear and concise instructions, packed with sturdy, easy to manipulate binders, slide sets, etc. The shipping/storage box is a handy, one-person size and weight which will fit easily into your closet (to hide it from the kids) or in the back seat of your car (on your way to your regional meeting). *E.J.*

Earl James is Administrator of Washington Properties, National Trust for Historic Preservation, a museum educator and founder of the Museum of the City of Washington.

American Association for State and Local History. *History News* 35 (September 1980): pp. 7-15, 47.

This "Back to School" issue includes several articles that are referred to in

this sourcebook: "Mid-South Teachers Take a Local Route to American History," "New England Teachers Go to the Source," and "How One Museum Helps Teachers Find Local History Sources." A brief one-page article sums up "How to Plan Classroom Visits to Historic Sites." *K.I.*

Blizzard, Gladys S. and Branyon, M. Joanne. "I Can Learn if I Listen or See or Feel." *Art Teacher* (Spring 1979): pp. 10-12.

In this cooperative program, students learn ways to appreciate and understand art through a series of docent tours at the museum followed by studio experiences in the school classroom. Each studio lesson uses a new medium. The program combines studio and aesthetic education, but it must be emphasized that it is not product-oriented. The lessons are experiments, not finished products. Sensitivity to this important distinction between the work done in the studio segment and the work seen in the galleries must be clear to parents, students and teachers. Although not an in-depth experience with art materials, the program is a valid approach to opening doors for discussing art. Topics of the six museum/school programs are given and a sample unit "Line" is described. *K.W.*

Caldwell, Pamela, compiler. "The Teacher's Guide to Preservation-Related Materials: A Selected Guide to Education Index Articles." Washington, D.C.: n p., 1978.

This annotated bibliography of eighty-six items is organized under the following subjects: archaeology; art and architecture; community study, including buildings, streets, neighborhoods; environmental awareness; field trips; local history, including cemetery study, family history and Foxfire/oral history; mapping; museums; and historic houses. Recommended grade levels are given. *N.R.*

Caldwell, Pamela, compiler. "A Book Bibliography for Children and Their Teachers." Washington, D.C.: n.p., 1979.

This reference is divided according to grade level. Nearly half of the books are descriptions of ideas and projects for teachers. The remaining nine books are fictional stories with an architecture and preservation bend. As part of its encouragement for preservation programs for school children, the National Trust for Historic Preservation maintains the Preservation Education Fund (PEF). A description of this fund and a list of other funding sources throughout the U.S. are available from the National Trust for Historic Preservation, 1785 Massachusetts Ave., N.W., Washington, D.C. 20036. *N.R.*

Center for Museum Education, Sue Robinson Hoth, ed. *Lifelong Learning/Adult Audiences, Sourcebook #1.* Washington, D.C.: Center for Museum Education, 1978.

This desk reference reports what the new emphasis in American education implies for museums; how theorists describe adult learners; a review of museum education services for adults; sponsors and resources for adult education, and a bibliography for museum educators. Now out-of-print, this publication is available from ERIC, Document Number ED 191754. *S.N.L.*

Center for Museum Education, Barbara C. Fertig, ed. *Volunteers in Museum Education, Sourcebook #2.* Washington, D.C.: Center for Museum Education, 1978.

This is a compendium of practices from museum education departments around the country on the structure, training, operation and evaluation of volunteer corps. Suggestions for preparing handbooks, keeping records, and alternative services beyond gallery instruction available to volunteers. Includes a list of resources and a bibliography. Now out-of-print, this publication is available from ERIC, Document Number ED 191755. *S.N.L.*

Center for Museum Education, Susan N. Lehman, ed. *Programs for Historic Sites & Houses, Sourcebook #3.* Washington, D.C.: Center for Museum Education, 1978.

This sourcebook reports on the interpretation of history as it is done in about a dozen different locations around the country, with an emphasis on the small historic house or site. Some opinions from professionals in the field on the philosophy of interpretation; resources, periodicals and a bibliography round out this very practical handbook. The notebook format encourages additions. Now out-of-print, this publication is available from ERIC, Document Number ED 191756. *N.R.*

Education Office, The National Trust for Historic Preservation. "Information Sheet 23," Washington, D.C.: n.p., 1979.

This annotated listing presents a wide range of programs and projects in a variety of settings developed around the country. These projects can be used to teach concepts, develop skills and create awareness about the built environment. The following headings are used: environmental awareness; architecture and art; community studies; local history; archaeology and maritime preservation. Many entries list the name and address of the sponsoring institution. Recommended grade levels and related curriculum subject are given. *N.R.*

Grochau, Karen E. *'To See' a Museum—A Guide to the Western Reserve Historical Society.* Cleveland: n.p., n.d. (67 pp.)

Exhibits in the museum are described with floor plans, a list of themes illustrated by the exhibits and descriptive sections about the collection found in each room. The chapters include several paragraphs on the significance of the objects to the history of the area, questions to encourage a closer look at the objects, and related topics that can be pursued for further study. A variety of children's activities is available on perforated pages. The eleven-page bibliography lists references on the high school or adult level and groups them according to subjects like "Museum Education," "Indians," and "Westward Expansion." Though written for adults, the guide can be adapted for children. Its design makes it easy to use as pre-visit, self-guide, and post-visit materials by adults and children. It is an excellent model for museum educators planning to publish orientation material for their site. *E.R.G.*

Heine, Aalbert. "Museums and the Student." Corpus Christi, Texas: The Friends of the Corpus Christi Museum, Number 2, January 1976. (18 pp.)

This is one of several occasional papers by the Director of the Corpus Christi Museum and offers a new perspective on "The Role of the Museum as a Source of Information." Heine offers to readers his view of a museum that allows itself to become a mere extension of the school system, and shares guidelines for the "Window Program" at CCM that is designed to open the windows of the world to students who visit his museum. Also included are the curriculum and final report of a college student's nine-month experience as a student of the museum's operation in 1972 and 1973.

This is a pep talk for museum educators who are busy with lesson plans that plug into the classroom experience, but are neglecting the unique opportunities available for sensory learning experiences. Heine perceives a lack of self-esteem among museum educators that affects our disseminations of the information museums have to offer. The "Occasional Papers" by Aalbert Heine are available from the Corpus Christi Museum, 1919 North Water Street, Corpus Christi, Texas 78401. Cost is $3.00. *E.R.G.*

Heine, Aalbert. "Museums and the Teacher." Corpus Christi, Texas: The Friends of the Corpus Christi Museum, Number 3, May 1977. (11 pp.)

This occasional paper by the Director of the Corpus Christi Museum promotes the worth of museum-school collaboratives. Each chapter presents insights to the general criteria for teaching elementary, intermediate, high school or college level students and opportunities for meeting those criteria at the museum. One significant feature of learning at the museum is that students develop skills for learning from resources other than teachers.

Heine focuses on the college level for building collaboratives, particularly for students of education. They could learn how to use the museum during their professional development by taking classes that include lectures in philosophy and in methods of teaching in museums. With an effective museum-school collaborative, student teachers could practice teaching in a museum, conduct field trips, and start schoolroom collections. If these courses were available in colleges, teachers could get credit for returning for these classes and be more confident of their abilities to use the museum. Copies are available from the Corpus Christi Museum, 1919 North Water Street, Corpus Christi, Texas 78401. Cost is $3.00 *E.R.G.*

Hoff, Darrel B. "The Participatory Lecture." *Journal of College Science Teaching* (March 1980): pp. 217-220.

This publication of the National Science Teacher's Association offers a sampling of current issues affecting post-secondary educators in the sciences. Style and topics are technical, but some material is pertinent to museum education.

This particular article presents a method for actively involving students in learning. The class is divided into small groups, each of which is given a problem. Groups study the problem independently and then compare their

findings. Museum educators might consider adopting this mode as an alternative to the traditional lecture. Excellent sample problems are included in the appendix. *J.D.*

Igoe, Kim with Hutchinson, Ann. *Directions—A Cultural Resources Directory and Curriculum Companion to the Washington Metropolitan Area*. Washington, D.C.: The Institute for the Arts, 1978. (271 pp.)

For those who ponder the meaning of the phrase, "community resource," this thoroughly researched book clearly defines it. Its listing goes beyond the historic sites, museums, parks, and nature centers of *The Directory* published by the Museum Education Roundtable in 1973. Individuals, groups, public institutions, and private firms in this area which can present programs of dance, drama, music, literature, history, science, and visual arts are listed with separate entries by subject. The index lists the resources alphabetically and includes a grid of related subjects like "folklore and fables" and "American studies" that matches each resource and its related subjects.

Descriptions of programs, grade levels, opportunities for teachers, telephone numbers and addresses are presented in the entries. Educators in museums and schools will find *Directions* useful for developing units and programs on many subjects. They may be inspired to plan multidisciplinary symposia at their sites.

Directions is a fine model for educators planning to publish a directory to cultural resources in their communities. An updated edition is scheduled to be available in 1981. For information write to Paul VI Institute for the Arts, 1711 N Street, N.W., Washington, D.C. 20036. *E.R.G.*

Institute for Educational Leadership. *Education Times*. Washington, D.C.: George Washington University.

Newsletter provides subscribers with the latest political, legislative and regulatory information and changes that affect education. Published weekly, the subscription rate is $50 per year (48 issues) if check accompanies order. Send checks or requests for information to *Education Times*, Institute for Educational Leadership, Suite 310, 1001 Connecticut Ave., N.W., Washington, D.C. 20036. *K.I.*

Lacey, Richard A. *Local School Boards and the Arts: a Call for Leadership*, no. 3. New York: The Arts, Education, and Americans, Inc., 1980.

This is one in a series of monographs published by the Arts, Education, and Americans, Inc. (AEA) in the wake of *Coming to Our Senses*. Number 3 describes the responsibilities and processes that local school boards go through to determine priorities and allocate funds for school expenditures. Good primer for how to turn school board members and administrators into allies for arts in education (and museum education) programs. Copies are available from AEA, Box 5297, Grand Central Station, New York 10163. Cost is $2.00. *K.I.*

Lacey, Thomas J., and Agar, Julie. "Bringing Teachers and Museums Together." *Museum News* (March/April 1980): pp. 50-54.

This insightful article was written by a faculty member in art education and a doctoral candidate in the division of teacher development, both from the University of Pittsburgh. They emphasize the importance of cooperatively planned programs to focus on the strengths of the university, the museums and the schools while developing strategies. They offer suggestions about how best to bridge the gap between museum educators and educators in the schools—especially educators of teachers on the undergraduate and graduate level. *K.I.*

Mosca, Carl A. and Murphy, Pat, eds. *AAZPA Educators Directory: a Directory to Education Officers and Programs of Member Zoological Parks and Aquariums.* Wheeling, West Virginia: American Association of Zoological Parks and Aquariums, 1980.

In addition to the useful directory listings of people and programs, the *Directory* has a concise and informative preface about how to organize, manage and fund an education program. The *Directory* is a project of the AAZPA Public Education Committee. *K.I.*

Museum Education Roundtable. "Report on Museum Practitioners Seminars." *Roundtable Reports* 5 (1980): pp. 1-16.

The Museum Practioner Seminars were sponsored by the Museum Education Program of the George Washington University, the Museum Education Roundtable, Washington, D.C. and the National Endowment for the Arts and were held in Fall 1979 and Spring 1980. This issue of *RR* includes articles researched and written by the museum education graduate students summarizing the presentations made by the four museum practitioners. The topics and practitioners are as follow: "Making the Move," Elaine Gurian, Director, Exhibit Center, The Children's Museum, Boston, MA; "Putting the Muses Back Into Museum Management," Dolo Brooking, then-Director of Museum Education, H.F. Spencer Museum of Art, University of Kansas, Lawrence, KS; "Learning in Museums," Alberta P. Sebolt, Director of Museum Education, Old Sturbridge Village, Sturbridge, MA; and "The History Behind, Within, and Outside the History Museum," Thomas J. Schlereth, Director of Graduate Studies, Department of American Studies, University of Notre Dame, South Bend, IN. This very informative issue of *RR* is available for $2.50 from the Museum Education Roundtable, c/o Ken Yellis, Department of Education, National Portrait Gallery, Smithsonian Institution, Washington, D.C. 20560. Subscriptions available for $10.00 per year. *K.I.*

National Art Education Association. *Art Education* 33 (January 1980): pp. 7-24.

This special issue on museum education as seen from the perspective of art educators provides a fine overview of the field, its history, philosophy, and programs. The museum is approached not as a curio shop, but as a learning environment complementary to the classroom. Replacing the "walk and gawk" tour are a wealth of alternatives: for teachers, a college course in us-

ing the museum as a resource; for students, an integrated series of classroom and museum lessons; and for docents, greater responsibility for school programs. Interaction between program, visitor, and ambience also receives consideration. Ways to capitalize on "museumness" and visitor inexperience are explored. *J.D.*

National Association of Elementary School Principals. *National Elementary Principal* (January/February 1976).

An integrative approach to arts education is investigated in this complete issue on the topic. From a survey of programs from around the country, collaborations among schools, museums, and community agencies are highlighted. Stanley Madeja, Jan Remer, and Carol Fineberg suggest ways to develop partnerships. This issue provides a good introduction for those interested in establishing closer ties between schools and museums. Particularly useful are the sections on initiating and evaluating arts-in-education programs. The bibliography is an added plus. *J.D.*

National Education Association. *Today's Education* 69 (September/October 1980).

Loafers and writing fluency, television and epilepsy—topics of interest to the public school teacher are covered in this journal of the NEA. The journal could be used both as a sensitizing agent and as a source of information. The "Special Feature on Television and Learning," for example, considers the impact of television on children's learning, a crucial issue for school and museum educators. School programs specialist may want to subscribe. Others might peruse a copy from time to time. *J.D.*

National Science Teachers Association. "Science Centers and Science Education." *Science and Children* 17 (March 1980): pp. 5-20.

John Falk of the Chesapeake Bay Center for Environmental Studies, Edgewater, Maryland, and Watson Laetsch of the Lawrence Hall of Science, Berkeley, California, provide insight into how children learn while on field trips. Falk reports that a novel environment can either promote or deter learning depending upon the age and experience of the learner group. Laetsch notes that field trip participants tend to progress from observing and touching to manipulating and analyzing to creative or original activities. The implications for program development should be of great interest to museum educators regardless of their discipline. Also included are descriptions of educational programs in science museums and classrooms as well as a discussion of industry-sponsored science exhibits. This is a thought-provoking article especially useful for those in the sciences. *J.D.*

Newsom, Barbara Y., and Silver, Adele Z. ed. *The Art Museum as Educator*. Berkeley and Los Angeles: University of California Press, 1978.

Based on interviews and observations by a team of reporters working over eighteen months, this valuable reference book reports on education programs at over seventy museums across the country. In most instances, an introductory section to a program description sets the scene, citing number of staff, amount of funding, location of program, intended audience and pro-

gram objectives. Teacher training and programs for elementary school, high school and university audiences are described. This is an excellent resource for museum educators regardless of discipline and school educators regardless of grade level taught. *S.N.L.*

Nugent, Gwen; Tiplon, Thomas; and Brooks, David. "The Teaching of Values." *Journal of College Science Teaching* (January 1980): pp. 151-152.

Article describes a university program to raise value-based issues with science students. Short video tapes were used as a stimulus to class discussion. Open-ended and unstructured, these allowed for individualistic response. This is worthwhile reading for museum educators interested in teaching students to evaluate their reactions to objects. *J.D.*

O'Connell, Peter S. "Museums and High School Students." Sturbridge, Massachusetts: Old Sturbridge, Inc., April 1979. (15 pp.)

Like many museums and historic sites, Old Sturbridge Village had been offering education programs primarily for elementary level students. In 1977 OSV obtained a two-year grant from NEH for a project called, "Adolescents, Museums and the Historical Imagination." One hundred and forty U.S. museums supplied information on their programs for high school students. O'Connell's report provides data, analyses and summaries for topics like factors affecting high school visitation, assumptions about high school students as learners, museum-school contact and museum teaching techniques for high school students. Copies of the report are available from Old Sturbridge Village, Museum Education Department, Sturbridge, MA 01566. *E.R.G.*

Office of Elementary and Secondary Education, Smithsonian Institution. *Art to Zoo.* Washington, D.C.: Smithsonian Institution Press, (published four times per year.)

Art to Zoo brings news from the Smithsonian Institution to teachers of grades three through eight. Each six-page newspaper is full of interesting and practical ideas for using community resources. Bibliographies are included. A "Pull-Out Page" is a regular feature to be used by children. Its activities relate to the thematic content of the issue. *Art to Zoo*, February/March 1979, offers a lesson on old houses (1870-1900), includes a data retrieval sheet and a check list worksheet that can be used by students in the classroom or on a field trip. A glossary of architectural terms with specific examples is given. This subject is adaptable for use in art, social studies or history classes. *Art to Zoo*, November/December 1979, discusses the history of photography, what can be learned from a photograph, how a camera works and includes a gallery of American portraits and ideas for working with kids and cameras. *Art to Zoo*, April 1980, introduces cemeteries as valuable local resources to use for clues to social patterns and values of people and events of the community. Topic can be used in geology, history, art, and social science classes. *Art to Zoo*, September 1980, features "Textiles," including their history, their use as cultural artifacts, some exotic textiles, and a description of plant and animal fibers. For information about how to receive individual copies or a subscription of *Art to Zoo* contact Ann Bay, editor, *Art to Zoo*, Arts and Industries Building, Room 1163, Smithsonian Institution, Washington, D.C. 20560. *K.W.*

Osborn, Richard; Curlin, Lance; and Hill, Gloria. "Revision of the NCSS Social Studies Curriculum Guidelines." *Social Education* 43 (April 1979): pp. 261-278.

The social studies are seen as a means to the analysis and resolution of social issues in this revision of the curriculum guidelines established by the National Council for the Social Studies. Included is a "Needs Assessment Instrument" which affords a systematic approach to the evaluation of priorities and programs. Museum educators might use it to identify discrepancies in their own programming efforts. Ideally, this evaluation would be performed in concert with schools and other participating agencies. Among other noteworthy articles offered in this journal are "A Parent's Guide to the Social Studies" (October 1974) and a teacher's supplement to "Odyssey," the first American television series on anthropology (March 1980). *J.D.*

Pope, Deborah and Riznik, Barnes. "Hawaii's Museums and the Schools." Hawaii Museums Association Paper Number 3, n.p., 1979. (16 pp.)

The Hawaii Museums Association and the State Department of Education sponsored a program for school and museum educators in November 1978. This is a follow-up report that describes the program, "Museums and the Schools," a series of workshops led by two women who have considerable experience with museum-school collaboratives. Alberta Sebolt, Director of Museum Education at Old Sturbridge Village and Bonnie Pitman-Gelles, then-chairperson of the AAM's Standing Committee on Education, led the two-week program.

The report focuses on the three sessions of the first part of the two-part conference during which methods for using Hawaii's art, history, anthropology and natural history collections as learning centers for elementary through high school level students were explored. The innovative guidelines provided by these women are presented clearly in this well-written report.

One learns from the comment of a participant in the first session that 75% of New Zealand's teachers spend at least six weeks learning how to use museums during their training program. Another comment reveals that successful museum-school collaboration in Hawaii has produced a new curriculum project on Hawaiian studies, and includes interpretation of material culture and kits with reproduced objects and lessons.

The financial report for the entire program, which finished with workshops on the Big Island, Kauai, Maui and Oahu, is included. Educators who are defining goals for their museum-school collaboratives will find helpful directions in this report. Copies are available from the Hawaii Museums Association, Ruth Tamura, P.O. Box 4125, Honolulu, HI 96813. *E.R.G.*

Press, Nancy N. *Museum in the Schools.* Ithaca, New York: Herbert F. Johnson Museum of Art, 1979.

The *Museum in the Schools* handbook describes the format of the collaborative program developed by one museum staff with assistance from local teachers. Information about logistics, examples of workshops, dynamics, specific activities, materials, communications with teachers, evaluation,

ramifications, funding, and a list of subject areas covered in the program, statistics, and sources of supplies and information provide an in-depth explanation. Copies of the publication are available from the Education Department, Herbert F. Johnson Museum of Art, Cornell University, Ithaca, New York 14853. Cost is $3.00 each, prepaid. *K.I.*

Reische, Diana M. *Ideas and Money for Expanding School Arts Programs*, no. 4. New York: The Arts, Education, and Americans, Inc., 1980.

This monograph offers a "roster of resources" that might provide assistance or stimulate ideas to develop and support school arts programs. Resource people, organizations, businesses, institutions and alliances are listed too. The guide focuses on state and national resources, but stresses the importance of locating local community resources. Publication is most informative for beginners and a handy ready-reference for those who have been doing program development and fundraising. Copies are available from AEA, Box 5297, Grand Central Station, New York 10163. Cost is $2.00. *K.I.*

Sebolt, Alberta P. "Building Collaborative Programs: Museums and Schools." Sturbridge, Massachusetts: Old Sturbridge, Inc., 1980. (24 pp.)

Good, general guidelines for developing a plan of action, implementing a collaborative program and evaluating it are accompanied by two helpful sections. An essay on learning styles is illustrated with a variety of teaching techniques used at Old Sturbridge Village, Worcester Historical Museum and Worcester Art Museum. Included are questions asked when students learn how to read a painting or a farmhouse floorplan.

Valuable ideas are revealed in five case studies of collaboratives that used this model. Several teachers featured in the case studies participated in the Teacher Training Workshops at Old Sturbridge Village, another successful collaborative effort. Copies are available from The New England Bookstore, Old Sturbridge Village, Sturbridge, MA 01566. Cost is $2.00. *E.R.G.*

U.S. Department of Education. *American Education* 14 (December 1978): pp. 6-22.

Model museum-school partnerships are described in this issue on museum education. It is recommended for all who wish to implement or revise a cooperative program. Museum and classroom, learning and teaching are complements in the three programs described. The Exploratorium makes teachers of students and students of teachers. Its SITES program alternates museum and classroom presentations. Old Sturbridge Village encourages teacher training in the belief that teacher-learners have more to share with students. The Whitney Museum Downtown gives college interns experience in museum management. *J.D.*

The University of the State of New York, The State Education Department. "Schools and Museums." Albany, NY: Curriculum Development Center, 1968. (31 pp.)

This report on the School-Museum Cooperative Education Project initiated

by the New York State Education Department twelve years ago offers valuable information and ideas for school and museum educators today. It was written to provide teachers and school administrators with methods for using museums for sensory learning experiences. A wide variety of museum experiences are explored and specific strategies for social studies, visual arts, science and humanities classes visiting museums are included.

Museum educators who are looking for ways in which schools can become involved in a successful museum-school collaboration will find this manual valuable. The chapter, "School Practices," illuminates responsibilities like administration, budget, scheduling and transportation that a school staff and school system could share for an effective collaboration.

The bibliography shows the research team of school and museum educators did its homework on this subject. Unfortunately, this report is out of print. *E.R.G.*

Other Resources:

ERIC is sponsored by the National Institute of Education as a service to the nation's educators and anyone interested in the field of education literature. Sixteen ERIC clearinghouses specialize in collecting and disseminating non-copyrighted, unpublished materials like project reports, speech texts, research findings, journal articles, locally produced materials, conference proceedings. Some copyrighted documents are accessible through ERIC if they have been identified as materials of outstanding interest to the field. ERIC is an acronym for Educational Resources Information Center. Additional information about its services and a specific listing of the regional clearinghouses are available from Central ERIC, 1200-19th Street, N.W., Washington, D.C. 20208. The phone number is (202) 254-5500. There is a fee for their services. *K.I.*

The Museum Reference Center is located in the Smithsonian Institution. It contains resources on all aspects of museum operations and provides reference assistance to museum personnel and researchers. Bibliographies and copies of materials are available. Write the MRC, Office of Museum Programs, Smithsonian Institution, Arts and Industries Building 2170, Washington, D.C. 20560. The phone number is (202) 357-3101. Some copying involves a small fee. *K.I.*

Institutional Acknowledgements

Other museums provided information about their museum-school partnerships:

Albright-Knox Art Gallery
Buffalo, New York

Arizona State Museum
Tucson, Arizona

Ball State University
Muncie, Indiana

Corcoran Gallery of Art
Washington, D.C.

Dallas Health & Science Museum
Dallas, Texas

De Cordova Museum
Lincoln, Massachusetts

Gibbes Art Gallery
Charleston, South Carolina

G.W.V. Smith Art Museum
Springfield, Massachusetts

Hunter Museum of Art
Chattanooga, Tennessee

Huntsville Museum of Art
Huntsville, Alabama

Memorial Art Gallery
Rochester, New York

Minneapolis Institute of Arts
Minneapolis, Minnesota

Museum of Texas Tech University
Lubbock, Texas

Reading Public Museum
Reading, Pennsylvania

Seattle Art Museum
Seattle, Washington

Scripps Aquarium
La Jolla, California

Smithsonian Institution
Office of Elementary and Secondary Education
Washington, D.C.

Taft Museum
Cincinnati, Ohio

University Art Gallery
Rutgers University
New Brunswick, New Jersey

The Victorian Society
Philadelphia, Pennsylvania

Virginia Museum of Fine Arts
Richmond, Virginia

To those individuals and institutions which we have inadvertently omitted here, we extend our apologies and acknowledge our sincere appreciation for their assistance.

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"Consider This..."-- a program description retrieval sheet for the Museum-School Sourcebook

Please be as brief or as detailed as you like in responding to these questions. Users of the Center for Museum Education have asked these kinds of questions when inquiring about planning a new program or modifying an existent one. With the variety of possible museum-school relationships we have had a difficult time drafting universally appropriate questions. You may very well not have an answer for each question. Please respond to those that are appropriate to your situation.

A. General Information.

1. _____ museum or school
   _____ name of contact person
   _____ street address
   _____ telephone
   _____ city, state, zip code

2. Name of museum-school collaboration described.

   Is it an on-going program? ____ yes ____ no If no, when did the program terminate?

3. Please list the goals of that collaboration.

4. Please provide a brief description of your museum-school collaboration.

B. Planning Your Program or Service.

5. Why was this program developed? For instance, did the schools approach the museum with a specific need? Did a cutback in transportation money necessitate the implementation of this program? Did the museum set a departmental goal of developing a collaborative effort with area schools? Did museum or school initiate the contact? Why was <u>your</u> program developed?

6. Is the program based on any other program or model that your institution has tried or that you have seen elsewhere? If yes, please identify the other program.

7. List both materials and people who served as resources for your <u>planning</u>.

8. Which areas of the curriculum does your program complement, if any?

9. How did you go about contacting the school (or museum) personnel?

10. Was that contact a key component in the development of your collaboration? If yes, please explain.

11. How do you maintain the working relationships between the museum and the school?

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12. Please list those considerations that you think would be useful to someone else planning a similar program.

C. Audience.

13. Who is the audience for this program? (Elementary school teachers, adolescents, college sophomores, etc.)

14. Is this a new audience for you?

15. Why was it important to involve the museum and/or school to reach this audience?

16. What particular needs or limitations of this audience have you identified? (e.g. time restrictions, lack of transportation)

17. How have you met these needs?

D. Structure and Program Maintenance.

18. When and where does the program take place? (In gallery? In school? During teacher in-service?)

19. And with what frequency?

20. Are transportation considerations involved? If yes, please describe.

21. Does the museum or school provide support services to school personnel, like teacher workshops? Please explain.

22. Please estimate the cost of maintenance.

E. Staff.

23. Which members of the museum and school staff are involved in the on-going activities of this program? How many?

24. Please list the job responsibilities of those staff members.

25. Are volunteers involved in this museum-school relationship?

26. If yes, who recruits the volunteers?

27. If yes, at what point in the development of that relationship do the volunteers become involved? What is their role?

F. Costs.

28. If possible, please give total cost of the program. You might prefer to give an average cost per week, per month or annually. That is fine, but please indicate time period.

29. Does the cost of the program come from: (Please check one or more.)

a. Museum education departmental budget ( )
b. Direct allocation from museum's budget ( )
c. Grant ( ) From what agency?
d. User fees ( ) How much per user? (or per group?)
e. School's budget ( )
f. Other source ( ) Please specify source.

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30. How many salaried museum personnel are involved in providing this service? And how many school staff?

31. Are outside consultants or contract workers used in this program? If yes, in what capacities?

32. Did this museum-school program demand special training for staff? If yes, who paid for training?

33. Who was trained?

34. Describe briefly any elements of training that you feel would be important for others to know about.

G. Evaluation.

35. Have you done any formal or informal evaluation of the program? Who served as evaluator?

36. Have changes been made as a result of the evaluator?

H. Hindsight.

37. If you could do this program all over again, what changes would you make? Please list key considerations that you think would be useful to someone else planning a similar program. Feel free to use the reverse of this page.

We appreciate the amount of time you took to respond to these questions. We think the resulting sourcebook will be a useful addition to the profession. Its usefulness will be enhanced because of your participation in these early stages. Thank you.